

# **REPOWERING KIT**

## **PARTS LIST**

**for**

**MODEL**

**PD- 4501**

**JUNE**

**1962**

**MARMON-HERRINGTON COMPANY, INC.**

**1511 WEST WASHINGTON STREET**

**INDIANAPOLIS 7, INDIANA**

## INSTRUCTIONS FOR USE OF PARTS LIST

Shown in the white paper section of this list are only those items furnished by Marmon-Herrington Company, Inc. in the repowering kit. For all other parts refer to Parts Book Number X-155041.

The arrangement of Sections and sub-groups is in the same order as Parts Book X-155041. This will assure compatability with existing information and enable personnel of Greyhound Corporation to adapt the list with the least inconvenience and confusion.

Component parts of assemblies are indicated by indentation. These parts are listed alphabetically under the assemblies.

An alphabetical index in blue paper section is located at the back of our parts section of the book. Immediately preceding the alphabetical index in pink paper section is a numerical listing of all part numbers shown in this book.

The engine and cradle assembly is procurable under our part number GBK-550-B. Shown on the following page is a list of parts included in the assembly. These blue paper explanatory pages do not effect the parts list and its numerical index as all items shown here are repeated in their proper sequence and section of the book.

The parts breakdown of the Detroit Diesel engine is reproduced on goldenrod paper and inserted at the back of this parts book. Detroit Diesel parts are not listed in our numerical index. We take responsibility only for the reproduction of Detroit Diesel information and not the technical accuracy or adequacy. Reproduction has been made courtesy of Detroit Diesel Engine Division of General Motors Corporation.

Cradle numbers, as given in this list for phased change points, will be found stamped adjacent to rear R.H. support tube hangers.

MARMON-HERRINGTON COMPANY, INC.  
1511 West Washington Street  
Indianapolis 7, Indiana

QTY.	PART NO.	PART NAME	QTY.	PART NO.	PART NAME	QTY.	PART NO.	PART NAME
1	GBK-8950	Clutch	1	GBK-10512	Hose Assy., Fuel Line	4	GM-120384	Lockwasher, 1/2
1	GBK-8953	Clutch Throwout Bearing Assy.	1	GBK-10613	Hose Assy., Fuel Line	4	GM-120382	Lockwasher, 3/8
18	GM-120382	Lockwasher, 3/8	1	GBK-10614	Hose Assy., Air Governor	4	GM-120221	Scr. Mch. R.H. #10-24 x 1/2
18	GM-181638	Bolt, Hex Hd., 3/8-24 x 1-1/8	1	GBK-10615	Hose Assy., Air Gov. to split valve	4	GM-131183	Lockwasher, #10
1	GBK-9100	Transmission	1	GBK-10616	Hose Assy., Norm. Stop. Cyl.	4	GM-132762	Scr. Mch. R.H. #8-32 x 1/2
1	GBK-9110	Grease Cup	1	GBK-10617	Hose Assy., Fast Idle Cyl.	4	GM-131095	Lockwasher, #8
1	GBK-9111	Hose Assy., Clutch Bearing Tube	1	GBK-10618	Hose Assy., Throttle Safety Cyl.	2	GM-144114	Street Ell., 1" Brass
1	N. P. N.	Pipe Plug, 3/4 F/W Engine	1	GBK-10619	Hose Assy., Bulkhead to skin. Valv.	1	GM-144131	Elbow, 1" Brass
24	GM-120383	Lockwasher, 7/16	1	GBK-10620	Hose Assy., Oil Gauge	1	GM-219913	Nipple, 1"x2-1/2, Brass
24	GM-180148	Bolt, Hex Hd., 7/16-14 x 1-3/8	1	GBK-10621	Hose Assy., Generator Drain	3	GM-180075	Bolt, Hex Hd., 5/16-18x5/8, Cad.
2	GBK-9175	Reverse Shift Brkt. Assy.	1	64T-27	Pipe Tee, Brass, 3/8	3	GM-120214	Lockwasher, 5/16
1	GBK-9253	Drive Unit, Speedometer	1	65T-7	Close Nipple, Brass, 3/8	5	GM-180122	Bolt, Hex Hd., 3/8-16 x 1
1	GBK-9255	Drive Adapter, Speedometer	2	64T-39	Male Branch Tee, 1/8	5	GM-120382	Lockwasher
1	GBK-9256	Flexible Shaft Assy.	1	64T-86	Street Tee, Brass, 1/4	3	GM-120377	Nut
1	GBK-9260	Sleeve Extension	1	65T-8	Close Nipple, Brass, 1/4	2	GBK-10451	Muffler
1	GBK-9261	Core Tip Ext., Speedo. Drive	1	GM-120388	Plain Washer, 7/16, Cad.	2	GBK-10453	Hanger Assy.
1	GBK-9265	Speedo. Adapter Supp. Brkt.	1	GM-180145	Bolt, Hex Hd., 7/16-14x1 Cad.	2	GBK-113377	Hose Nipple (Heatr. Connec.)
2	GM-180120	Bolt, Hex Hd., 3/8-16 x 3/4, Cad.	2	GM-178576	Int. & Ext. Tooth Lm Wash. 7/16	1	57T-2	1/8 MPT-1/4 Tube, Conn.
2	GM-120382	Lockwasher, 3/8	2	GM-120383	Lockwasher, 7/16	2	59T-2	1/8 MPT-1/4 Tube, Elbow
2	GM-181567	Bolt, Hex Hd., 1/4-28 x 7/8	1	GM-271505	Nut, Hex.	1	GBK-113555	Tube Assy.
2	GM-120380	Lockwasher, 1/4	1	GM-181666	Bolt, 7/16 - 20 x 1	1	GBK-11357	Tube Assy.
2	GM-120367	Nut, Hex., 1/4 - 28	1	GBK-12008	Ground Strap	2	GBK-11341	Brkt., Fuel Line
4	GBK-9653	Clamp	2	60T-172	Washer Idler Shafts	4	5T-84	Clamp, Fuel Lines
2	GBK-9657	Hose Pump Outlet, 2-1/4x3-1/2	2	GM-120369	Nut, Hex., 3/8 - 24	2	214003	Bolt, Hex Hd., 1/4-20 x 1
1	GBK-9658	Hose Pump Inlet, 2-3/4x4-1/2	6	GM-131099	Lockwasher, 3/8	2	120380	Lockwasher, 1/4
1	GBK-9662	Bracket, Water Tube	2	GM-120394	Washer, Plain, 13/32	2	120375	Nut, Hex., 1/4 - 20
1	GBK-9663	Bracket, Water Tube	2	76T-198	Stud, Stab., Anchor Plate	4	180021	Bolt, Hex Hd., 1/4 - 20 x 7/8
1	GBK-9670	Bracket Assy., Lower	1	GBK-9855	Gear Box	4	120380	Lockwasher, 1/4
1	GBK-9801	Rub. Fan with 3/8-16x1-1/4 mtg.	AR	GBK-9956	Shim	5	180122	Bolt, Hex Hd., 3/8-16 x 1
8		Bolts	AR	GBK-9957	Shim	5	120332	Lockwasher, 3/8
8		Lockwashers	AR	GBK-9958	Shim	3	120377	Nut, hex., 3/8 - 16
1	GBK-9855	Gear Box	AR	GBK-9959	Shim	2	GBK-10007	Ring, Retainer
AR	GM-181709	Bolt, Hex Hd., 1/2-20 x 2-1/2, Cad.	1	GM-120384	Lockwasher, 1/2, Cad.	2	272922	Nut, Lock, 7/8 - 14
4	GM-120371	Nut, Hex., 1/2-20, Cad.	1	GBK-11396	Hose, Stratoflex	2	119512	Lubrication Fitting
4	GM-120384	Lockwasher, 1/2, Cad.	AR	GM-181705	Bolt, 1/2 - 20 x 2	1	128140	3/4 P - 1/2 P Reducer
1	75T-75	Nut, Slotted, 1-20	AR	GM-181707	Bolt, 1/2-20 x 2-1/4	2	2T-414	Bolt, 3/4 - 16 x 6, Rear Mount
1	GM-103387	Cotter Pin, 1/8x1-1/2	3	NPN	Bolt, 3/8 - 24 x 1-3/8	2	223836	Bolt, 3/4 - 16 x 4-1/2 Frt. Mount
1	GM-124553	Woodruff Key, Alloy Steel	3	NPN	Lockwasher, 3/8	4	24T-29	3/4 - 16 E.S. Nut
1	GBK-9900	Universal Assy., Fan Drive	1	GM-513082	Hub - Accessory Drive Gear	2	NPN	Skinner Valv. (Furn. by Greyhound)
1	14T-39	Key	1	GM-2326310	Coupling P. S. P. Drive	1	GBK-11321	Bracket, Amphenoil Plugs
1	74T-20	Set Screw, Sq. Hd.	1	GM-5127670	Hub, Hyd. Pump Drive	1	GM-444584	Pipe Plug, Sq. Hd., 3/8
1	GBK-9950	Brkt. Pillow Block, Fan Drive	1	GM-127660	Elbow St. 1/8x90	1	GBK-10277	Guard Plate Lower Rad. Howe
1	GBK-9951	Brkt., Fuel Filter	4	GM-180177	Bolt, 1/2-13x1-1/2	AR	GBK-10280	Muffler Cover L.H.
1	GBK-9900	Fan Support, W/A	1	GM-139125	Hex Socket Set Screw 1/4-20x 2/8	AR	GBK-10281	Muffler Cover R.H.
1	GBK-9965	Brace, Fan Support	1	GBK-11406	Roll Pin, 3/16 x 2	1	GBK-9665	Tube Eng. Outint Conn.
2	GBK-10116	Dowel	1	63T-59	Connector, Bulkhead	1	GM-180128	Bolt, Hex Hd., 3/8-16 x1-3/4
4	GM-120384	Lockwasher, 1/2 Med. Cad.	1	A50-2641	Connector, Bulkhead			
4	GM-120371	Nut, Hex., 1/2 - 20, Cad.	1	GBK-10650	Accelerator Brkt. Assy.			
2	GM-181637	Bolt, 3/8-24 x 1, Cad.	1	GBK-10660	Safety Throttle Rod Assy			
2	GM-120369	Nut, Hex., 3/8-24, Cad.	1	GM-213910	Bolt, Hex. Hd., 5/16-24x1			
2	GM-20382	Lockwasher, 3/8 Med. Cad.	1	GM-120214	Lockwasher, 5/16			
4	GM-181698	Bolt, Hex Hd., 1/2-20x1-1/4 Cad.	1	GM-120368	Nut, 5/16 - 24			
4	GM-120371	Nut, Hex., 1/2-20, Cad.	1	GM-114783	Clevis Pin, 1/4			
4	GM-120384	Lockwasher, 1/2, Cad.	1	GM-112726	Cotter Pin, 1/16 x 1/2			
1	GM-181698	Bolt, Hex Hd., 1/2-20x1-1/4 Cad.	1	GBK-11210	Adj. Gen. Supt. Assy.			
1	GM-120371	Nut, Hex., 1/2-20, Cad.	3	GM-180128	Bolt, Hex. Hd., 3/8-16d-1/4 Cad.			
1	GBK-10000-A	Pillow Block Assy.	1	GBK-11250	Engine Assy.			
1	GBK-10005	Shaft, Fan Drive Idler	1	GBK-11259	Breather Tube			
1	GBK-10006	Pulley, Idler	1	GBK-11260	Air Horn Assy., Eng. Blower			
1	GBK-10014	Spacer, Fan Idler Pulley	1	GBK-11275	Tube, Air Horn to Comp. Intake			
4	GBK-10017	Ball Bearing	1	GBK-11276	Governor, Air Compressor			
2	GM-272920	Lock Nut, 3/4-16	1	GBK-11277	Gasket Air Comp. Governor			
8	76T-195	Stud, 1/2-13 NCx1/2-20NFx2-1/4	1	GBK-11278	Adapter, Strainer			
12	GM-120371	Nut, Hex., 1/2-20 NF Cad.	1	GBK-11295	Generator Drive Assy.			
12	GM-120384	Lockwasher, 1/2 Med.	1	GBK-11296	Fitting, Air Comp. Discharge			
2	2T-419	Bolt, Idler Adj.	1	GBK-11297	Gasket, Flex. Line to Disch. Fit.			
1	GBK-10050	Supt. Brkt. Assy., Pillow Block	6	GM-120382	Lockwasher, Air Horn Mtg.			
6	GM-120369	Nut, Hex., 3/8-24, Cad.	6	GM-120394	Fl. Washr. Air Hose Mtg.			
6	GM-120384	Lockwasher, 3/8 Med. Cad.	2	2T-422	Bolt, 3/8-16 x 8-1/2			
6	76T-196	Stud	2	GM-189308	Bolt, 3/8-16 x 6			
1	GBK-10100-A	Pillow Block Assy.	2	GM-180083	Bolt, Hex Hd., 5/16-18x1-1/2, Cad.			
1	GBK-10105	Shaft, Freon Comp. Drive Idler	2	2T-423	Bolt, Hex Hd., 5/16-18x2-7/8, Cad.			
1	GBK-10106	Pulley, Idler	2	GM-120214	Lockwasher, 5/16, Cad.			
1	GBK-10114	Spacer, Comp. Idler Pulley	2	GM-120376	Nut, Hex., 5/16 - 18, Cad.			
4	GBK-10115	Dowel, Comp. Pulley Support	2	GM-120214	Lockwasher, 5/16, Cad.			
6	GBK-10116	Dowel, Pillow Block	1	64T-83	Elbow, Comp. Fitting 1/2Px3/4T			
1	GBK-10250	Engine Cradle Rework Assy.	1	64T-84	Elbow, Comp. Fitting 3/4Px3/4T			
2	GBK-10264	Rod & Ring Assy.	2	GM-111292	Bolt, 3/8 - 16 x 4-1/4			
1	GBK-10265	Tube, Engine Stabilizer	1	63T-24	Clamp, Breather Tube			
1	GBK-10266-A	Anchor Plate, Eng. to Stabilizer	2	GM-180677	Bolt, Hex Hd., 5/16-18 x 3/4 Cad.			
1	GM-189307	Bolt, hex. hd., 3/8-16x5-1/2	1	GBK-11300	Pump Power Steering			
5	GM-180126	Cap Screw, 3/8-16 x1-1/2	1	GBK-11301	Thermostat, Engine Overheat			
2	GM-124944	Jam Nut, 5/8-18	2	GBK-11308	Air Cyl. Eng. Stop & Fast Idle Safety			
2	GBK-10300	Eng. Supt. Rear Coasting	1	GBK-11310	Support Assy., Engine Frt.			
8	GM-271724	Bolt, Hex Hd., 5/8-11x2-1/4	1	GBK-11317	Solenoid Valv. Brkt. W/ Assy.			
8	GM-121574	Lockwasher, 5/8	1	GBK-11325	Bracket Assy., Power Steer. Filter			
4	GM-271744	Bolt, Hex Hd., 5/8-18x1-1/2, Cad.	2	GM-181637	Bolt, Hex Hd., 3/8-24 x 1			
4	GM-121358	Nut, 5/8-18, Cad.	2	GM-120382	Lockwasher, 3/8			
4	GM-121574	Lockwasher, 5/8 Med. Cad.	2	GM-120369	Nut, Hex., 3/8 - 24			
1	GBK-10402	Engine Underpan, R.H.	8	GM-132900	Mach. Scr. R.H. #10-32x3/8, Cad.			
1	GBK-10403	Engine Underpan, L.H.	8	GM-131183	Lockwasher, #10			
14	GM-456289	Self-Tap. Scr. 1/4-20x1-1/2 Type D	1	GM-120322	Bushing, Reducer, 1/2x3/8			
16	GM-120396	Washer	4	GM-189334	Bolt, Hex Hd., 3/8-24x4-1/2, Cad.			
8	GM-271501	Nut	2	GM-180122	Bolt, Hex Hd., 3/8-16 x1, Cad.			
8	R-31458	Spring	2	GM-180124	Bolt, Hex Hd., 3/8-16 x 1-1/4 Cad.			
4	GM-120384	Lockwasher	8	GM-120382	Lockwasher			
4	GM-120378	Nut, 1/2-13	1	GM-181698	Bolt, Hex Hd., 1/2-20x1-1/4, Cad.			
4	GM-180173	Bolt, 1/2-13 x 1	4	GM-120371	Nut, 1/2-20, Cad.			
1	GBK-10556	Engine Harness	4	GM-120384	Lockwasher, 1/2 Med. Cad.			
1	GBK-10559	Solenoid, Reverse (Trans.)	1	GM-180120	Bolt, Hex Hd., 3/8-16x3/4 Cad.			
1	GBK-10566	Thermo Gauge Engine Unit	1	GM-180143	Bolt, Hex Hd., 7/16-14x3-1/4, Cad.			
1	GBK-10604	Hose Assy., Perry Water Filter	1	GM-120382	Lockwasher, 3/8 Med. Cad.			
1	GBK-10605	Hose Assy., Perry Water Filter	1	GM-120383	Lockwasher, 7/16 Med. Cad.			
1	GBK-10606	Hose Assy., Lube Oil	4	GM-180194	Bolt, Hex Hd., 1/2-12 x 14			
1	GBK-10610	Hose Assy., Fuel Line	2	GM-191249	Bolt, Hex Hd., 3/8-16x1-3/4			
1	GBK-10611	Hose Assy., Fuel Line	2	GM-180122	Bolt, Hex Hd., 3/8-16x1			
1	GBK-10612	Lockwasher, 1/2	4	GM-120371	Nut, Hex., 1/2 - 20			

## CLIPS REQUIRED FOR ENG. WIRE HARNESS

1	5T-5	Clamp 2 Bell Housing
1	5T-4	Clamp @ Top Cover Transmission
1	5T-39	Clamp @ Anchor Plate Eng. to Stabil.
1	5T-84	Clamp @ Alternator
2	5T-84	Clamp @ R. S. Rocker Arm Cover & Intak. Manif.
3	5T-91	Clamps @ L. S. Rocker
2	24T-33	Elastic Stop Nut, 3/4-16
4	60T-173	Washer
1	GBK-10591	Lead, Electrical
1	GBK-9106	Oil Cap & Chain Assy.
1	57T-2	Inverted Connector
4	41T-219	Rivet, 3/16 x 5/16 Grip
1	GM-120382	Lockwasher, 3/8
1	85T-5	Lockwire
1	GBK-10658	
1	GBK-10592	
AR	41T-246	Rivet (For GBK-10280 & GBK-10281)
2	GBK-9659	Clamp Rose (Worm Drive Type)
AR	GBK-10102	Shim Pillow Block Freon Comp.
1	GBK-9664	Elbow, 2-3/4 Radiator Inlet
AR	GBK-9967	Shim
AR	GBK-9968	Shim
AR	GBK-9969	Shim
AR	GBK-9970	Shim
AR	GBK-9971	Shim
1	GM-192470	Nipple, 3/4 Close
1	GM-218245	Tee, 3/4 x 3/4 x 1
2	76T-198	Stud
2	GM-130394	Plain Washer
6	GM-131099	Lockwasher, 3/8
2	GM-120369	Nut, Hex., 3/8 - 24
1	GM-120388	Plain Washer
1	GM-180145	Bolt, 7/16-14 x 1
1	GM-178576	Lockwasher, Int. - Ext. 7/16
2	GM-120383	Lockwasher, 7/16
1	GM-271506	Nut, Hex., 7/16 - 20
1	GM-181666	Bolt, 7/16 - 20 x 1
1	GBK-12008	Ground Strap
1	GM-143953	Pipe Plug
1	GBK-10267	Gasket
1	GBK-11400	Drive Assy. P.S.
1	GBK-11401	Pulley, 9-1/16 Dia.
1	GBK-11402	Pulley, 4 Dia.
1	GBK-11403	Belts
1	GBK-11404	Mounting Plate
1	GBK-11405	Key, 1/4 x 1/4 x 1-1/2
1	GBK-11406	Roll Pin, 3/16 x 2
1	GBK-11407	Support Pump P.S.
1	24T-32	Lock Nut
5	GM-120396	Plain Washer, 17/32 L.D.
5	GM-426099	Nut, Hex., 3/4 - 16
2	GM-131046	Lockwasher, 3/4
2	GM-131017	Plain Washer
2	76T-197	Stud, 3/4 - 10 x 3/4 - 16
1	GM-454565	Roll Pin, 1/4 x 1-1/4
2	GM-181639	Bolt, 3/8 - 24 x 1-1/4
2	GM-120382	Lockwasher, 3/8
2	GM-181707	Bolt, 1/2 - 20 x 2-1/4

# CONTENTS

	<u>Page No.</u>
REAR AXLE	1-3
Differential Carrier Assembly	1-3
BRAKES	4-8
Air Governor	4-5
Air Compressor	6-7
Air Brake Lines	7-8
CLUTCH	9-14
Clutch Assembly	9
Clutch Control	9-11
Clutch Control Cylinder	11-12
Clutch Accumulator, Control Valve and Lever	12-14
COOLING	15-22
SHUTTER ASSEMBLY	15-16
Radiator	15-16
VERNATHERM CONTROL ASSEMBLY	16
Radiator Mounting	17
RADIATOR LATCH LEVER ASSEMBLY	17
Water Fittings, Hose & Surge Tanks	17-18
Fan and Drive	18
Fan Gear Box	18-19
Fan Drive, Universal Assembly	19-20
Pillow Block w/Bracket and Idler Pulley (Engine Cooling)	21-22
Fan Support Assembly	22
ELECTRICAL	23-36
Stop and Tail Lamps	23
Target and License Lamp	23
Starting Motor	23-25
Generator	25-28
Voltage and Current Regulator	28-31
Instruments	31
Speedometer	31-32
Solenoid	32-34



# CONTENTS

	<u>Page No.</u>
ELECTRICAL (continued)	
Switches	34
Fuses, Junction Panels, Buzzer and Relay	34-35
Wiring	35-36
Wire Connectors	36
Crankcase Ventilator, Oil Filter and Breather	37
Engine Mounting	37-38
Accessory Drive	38
Oil Lines	38
Accelerator and Rods	38
Throttle Control	39
Engine Stabilizer	39
FUEL	40-41
Fuel Lines	40
Fuel Filter	40
Blower Air Inlet--Air Shut-Off	40-41
Fuel Injector	41
Exhaust	41
MUFFLER ASSEMBLY	41
Air Cleaner	41
STEERING	43-44
Power Steering Hydraulic Fluid Pump	43-44
POWER STEERING FILTER	43
POWER STEERING PUMP	43-44
TRANSMISSION	45-50
Transmission Assembly	45-50
Transmission Gear Shift Lever and Control	50
PROPELLER SHAFT	51
Propeller Shaft Assembly	51
BODY	52-56
DOORS	52-56

## CONTENTS

	<u>Page No.</u>
DOORS (continued)	
Miscellaneous	52-56
AIR CONDITIONING	57-59
Heater Pipes and Connections	57
Air Conditioning Compressor Drive and Shaft	58
Compressor Drive Mounting and Idler Pulley	58-59
NUMERICAL LISTING OF PART NUMBERS	60-71
INDEX	72-73

# REAR AXLE

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Differential Carrier Assembly</u>		
122104	BOLT, hex (3/8" - 16 x 5/8" seal with No. 2 Permatex)	1
GBK-9400	CARRIER ASSEMBLY, differential (3.7:1 ratio)	1
940101	. BLOCK, drive gear thrust	1
940102	. CAPSCREW, differential bearing adjusting ringlock	4
940103	. CAPSCREW, propeller brake spider	8
940098	. CARRIER and CAP ASSEMBLY, differential	1
940092	. . CAPSCREW, differential bearing	4
940093	. . DOWEL, differential bearing cap	4
940094	. . WASHER, differential bearing capscREW	4
940104	. CUP, differential bearing	2
940001	. DIFFERENTIAL, DRIVE GEAR, BEARING CAGE PINION and FLANGE ASSEMBLY	1
940002	. . CAGE, PINION and FLANGE ASSEMBLY, pinion bearing	1
940119	. . . BEARING, drive pinion rear	1
940003	. . . CAGE ASSEMBLY, pinion forward bearing	1
940004	. . . . CAGE and CUP ASSEMBLY, pinion forward bearing	1
940005	. . . . . CUP, pinion bearing	2
940006	. . . . . CONE, pinion forward bearing (inner and outer)	2
940007	. . . . . SHIM, pinion bearing (.496)	As Req.
940008	. . . . . SHIM, pinion bearing (.497)	As Req.
940009	. . . . . SHIM, pinion bearing (.498)	As Req.
940010	. . . . . SHIM, pinion bearing (.499)	As Req.
940011	. . . . . SHIM, pinion bearing (.500)	As Req.
940012	. . . . . SHIM, pinion bearing (.501)	As Req.
940013	. . . . . SHIM, pinion bearing (.502)	As Req.
940014	. . . . . SHIM, pinion bearing (.503)	As Req.
940015	. . . . . SHIM, pinion bearing (.504)	As Req.
940016	. . . . . SHIM, pinion bearing (.505)	As Req.
940017	. . . . . SHIM, pinion bearing (.506)	As Req.
940018	. . . . . SHIM, pinion bearing (.507)	As Req.
940019	. . . . . SHIM, pinion bearing (.508)	As Req.
940020	. . . . . SHIM, pinion bearing (.509)	As Req.
940021	. . . . . SHIM, pinion bearing (.510)	As Req.
940022	. . . . . SHIM, pinion bearing (.511)	As Req.
940023	. . . . . SHIM, pinion bearing (.512)	As Req.
940024	. . . . . SHIM, pinion bearing (.513)	As Req.
940025	. . . . . SHIM, pinion bearing (.514)	As Req.
940026	. . . . . SHIM, pinion bearing (.515)	As Req.
940027	. . . . . SHIM, pinion bearing (.516)	As Req.
940028	. . . . . SHIM, pinion bearing (.517)	As Req.
940029	. . . . . SHIM, pinion bearing (.518)	As Req.
940030	. . . . . SHIM, pinion bearing (.519)	As Req.
940031	. . . . . SHIM, pinion bearing (.520)	As Req.
940032	. . . . . SHIM, pinion bearing (.521)	As Req.

# REAR AXLE

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Differential Carrier Assembly (continued)</u>		
940033	. . . . SHIM, pinion bearing (.522)	As Req.
940034	. . . . SHIM, pinion bearing (.523)	As Req.
940035	. . . . SHIM, pinion bearing (.524)	As Req.
940036	. . . . SHIM, pinion bearing (.525)	As Req.
940037	. . . . SHIM, pinion bearing (.526)	As Req.
940038	. . . . SHIM, pinion bearing (.527)	As Req.
940039	. . . . SHIM, pinion bearing (.528)	As Req.
940040	. . . . SHIM, pinion bearing (.529)	As Req.
940041	. . . . SHIM, pinion bearing (.530)	As Req.
940042	. . . . SHIM, pinion bearing (.531)	As Req.
940043	. . . . SHIM, pinion bearing (.532)	As Req.
940044	. . . . SHIM, pinion bearing (.533)	As Req.
940045	. . . . SHIM, pinion bearing (.534)	As Req.
940046	. . . . SHIM, pinion bearing (.535)	As Req.
940047	. . . . SHIM, pinion bearing (.536)	As Req.
940048	. . . . SHIM, pinion bearing (.537)	As Req.
940049	. . . . SHIM, pinion bearing (.538)	As Req.
940050	. . . . SHIM, pinion bearing (.245)	As Req.
940051	. . . . SHIM, pinion bearing (.251)	As Req.
940052	. . . . SHIM, pinion bearing (.252)	As Re
940053	. . . . SHIM, pinion bearing (.253)	As Req.
940054	. . . . SHIM, pinion bearing (.254)	As Req.
940055	. . . . SHIM, pinion bearing (.255)	As Req.
940056	. . . . SHIM, pinion bearing (.256)	As Req.
940057	. . . . SHIM, pinion bearing (.262)	As Req.
940058	. . . . SHIM, pinion bearing (.268)	As Req.
940059	. . . . SHIM, pinion bearing (.274)	As Req.
940060	. . . . SHIM, pinion bearing (.279)	As Req.
940061	. . . . SHIM, pinion bearing (.285)	As Req.
940062	. . . CAPSCREW, propeller brake spider oil slinger	8
940063	. . . COTTER	1
940064	. . . FLANGE and SLINGER ASSEMBLY, companion	1
940065	. . . . SEAL, "O" ring	1
940067	. . . . SLINGER, oil	1
940066	. . . . WIPER, seal	1
940068	. . . GASKET, propeller brake spider oil slinger	1
940069	. . . GASKET, pinion bearing cage brake spider	1
940070	. . . LOCKWASHER, propeller brake spider oil slinger	8
940072	. . . OIL SEAL ASSEMBLY	1
940073	. . . PINION and NUT ASSEMBLY, drive (order kit 940122)	1
940071	. . . . NUT, pinion	1
940100	. . . . PINION, drive (Order kit 940122)	-
940118	. . . . RETAINER, pinion rear bearing	1
940117	. . . . RING, drive pinion bearing lock	1

# REAR AXLE

<u>Number</u>	<u>Part Name</u>	<u>Vehicle</u>
<u>Differential Carrier Assembly (continued)</u>		
74	. . . SLINGER, propeller shaft brake spider oil	1
75	. . . SPIDER, BUSHING and PIN ASSEMBLY, propeller shaft brake	1
95	. . . . BUSHING, propeller shaft brake camshaft	2
96	. . . . OIL SEAL ASSEMBLY, propeller shaft brake camshaft	1
97	. . . . PIN, propeller shaft brake camshaft anchor	2
76	. . . WASHER, pinion bearing	1
91	. . DIFFERENTIAL, DRIVE GEAR and PINION ASSEMBLY	1
77	. . . DIFFERENTIAL and CONE ASSEMBLY	1
78	. . . . BOLT, case (long)	8
79	. . . . BOLT, case (short)	4
90	. . . BOLT, differential and drive gear	12
22	. . . KIT, differential drive gear and pinion replacement	1
90	*. . . . BOLT, differential and drive gear	12
99	. . . . GEAR and PINION ASSEMBLY, differential (Order Kit 940122)	1
39	*. . . . . GEAR, drive (Order Kit 940122)	1
71	*. . . . . NUT, drive pinion	1
00	*. . . . . PINION, drive (Order Kit 940122)	1
21	*. . . . LOCKWIRE, differential and drive gear bolt	6
20	*. . . . NUT, differential and drive gear bolt	12
30	. . . . CASE ASSEMBLY, differential	1
31	. . . . CONE, differential bearing	2
32	. . . . GEAR, differential side	2
21	. . . . LOCKWIRE, differential and drive gear bolt	6
33	. . . . LOCKWIRE, differential case bolt	4
20	. . . . NUT, differential and drive gear bolt	12
34	. . . . NUT, differential case bolt	12
35	. . . . PINION, differential	4
36	. . . . SPIDER, differential	1
37	. . . . WASHER, differential side gear thrust	2
38	. . . . WASHER, differential pinion thrust	4
05	. LOCK, differential bearing adjusting ring	2
06	. LOCKWIRE, differential bearing adjusting ring lock capscrew	2
07	. LOCKWIRE, differential bearing cap stud nut	2
08	. LOCKWASHER, propeller brake spider capscrew	8
09	. NUT, drive gear thrust block screw	1
10	. PLUG, inspection-filler and oil level hole	1
11	. RING, differential bearing adjusting	2
12	. SCREW, drive gear thrust block	1
13	. SHIM, pinion forward bearing cage(thin)	As Req.
14	. SHIM, pinion forward bearing cage(medium)	As Req.
15	. SHIM, pinion forward bearing cage(thick)	As Req.
16	. SHIM, pinion forward bearing cage(.003)	As Req.
94	GASKET, differential carrier	1

uplicate listing for purpose of clarity.

# BRAKES

Per  
Vehicle

Part Number

Part Name

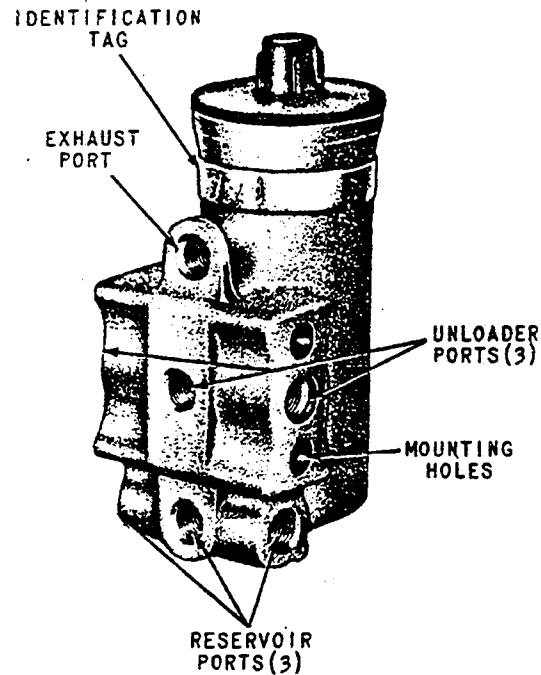
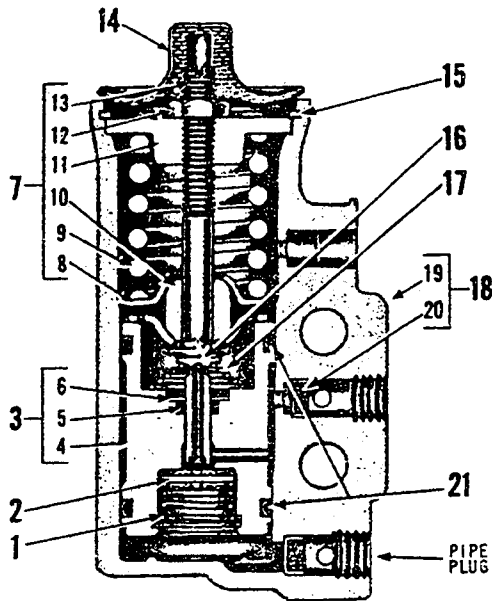


Figure 1

## Air Governor

GBK-11276	GOVERNOR, air compressor	1
1127607	. ADJUSTING SCREW and SPRING ASSEMBLY (7-Fig. 1)	1
1127610	. . GUIDE, spring (10-Fig. 1)	1
1127612	. . NUT (12-Fig. 1)	1
1127613	. . SCREW, adjusting (13-Fig. 1)	1
1127608	. . SEAT, spring lower (8-Fig. 1)	2
1127611	. . SEAT, spring upper (11-Fig. 1)	1
1127609	. . SPRING, (9-Fig. 1)	1
1127618	. BODY ASSEMBLY (18-Fig. 1)	1
1127619	. . BODY (19-Fig. 1)	1
1127620	. . FILTER (20-Fig. 1)	2
1127614	. COVER (14-Fig. 1)	1
1127621	. GROMMET, (1.09" O. D.) (21-Fig. 1)	2
1127603	. PISTON ASSEMBLY (3-Fig. 1)	1
1127605	. . GROMMET, (11/32" O. D.) (5-Fig. 1)	1
1127604	. . PISTON (4-Fig. 1)	1
1127606	. . WASHER (6-Fig. 1)	1
1127622	. PLUG, pipe (1/8") (22-Fig. 1)	4
1127615	. RING, retaining (15-Fig. 1)	1
1127617	. . SPRING, exhaust stem (17-Fig. 1)	1
1127616	. . STEM, exhaust (16-Fig. 1)	
1127601	. SPRING, valve (1-Fig. 1)	
1127602	. VALVE, (2-Fig. 1)	

# BRAKES

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Air Governor (continued)</u>		
GBK-11357	TUBE ASSEMBLY, solenoid valve (drain)	1
58T-37	. NUT, brass (1/4" tube standard inverted flare)	1
GBK-11358	. TUBE, (1/4" O. D. x .035 wall)	1
GBK-11355	TUBE ASSEMBLY, (between solenoid valves)	1
58T-37	. NUT, brass (1/4" tube standard inverted flare)	2
GBK-11356	. TUBE, (1/4" O. D. x .035 wall)	1

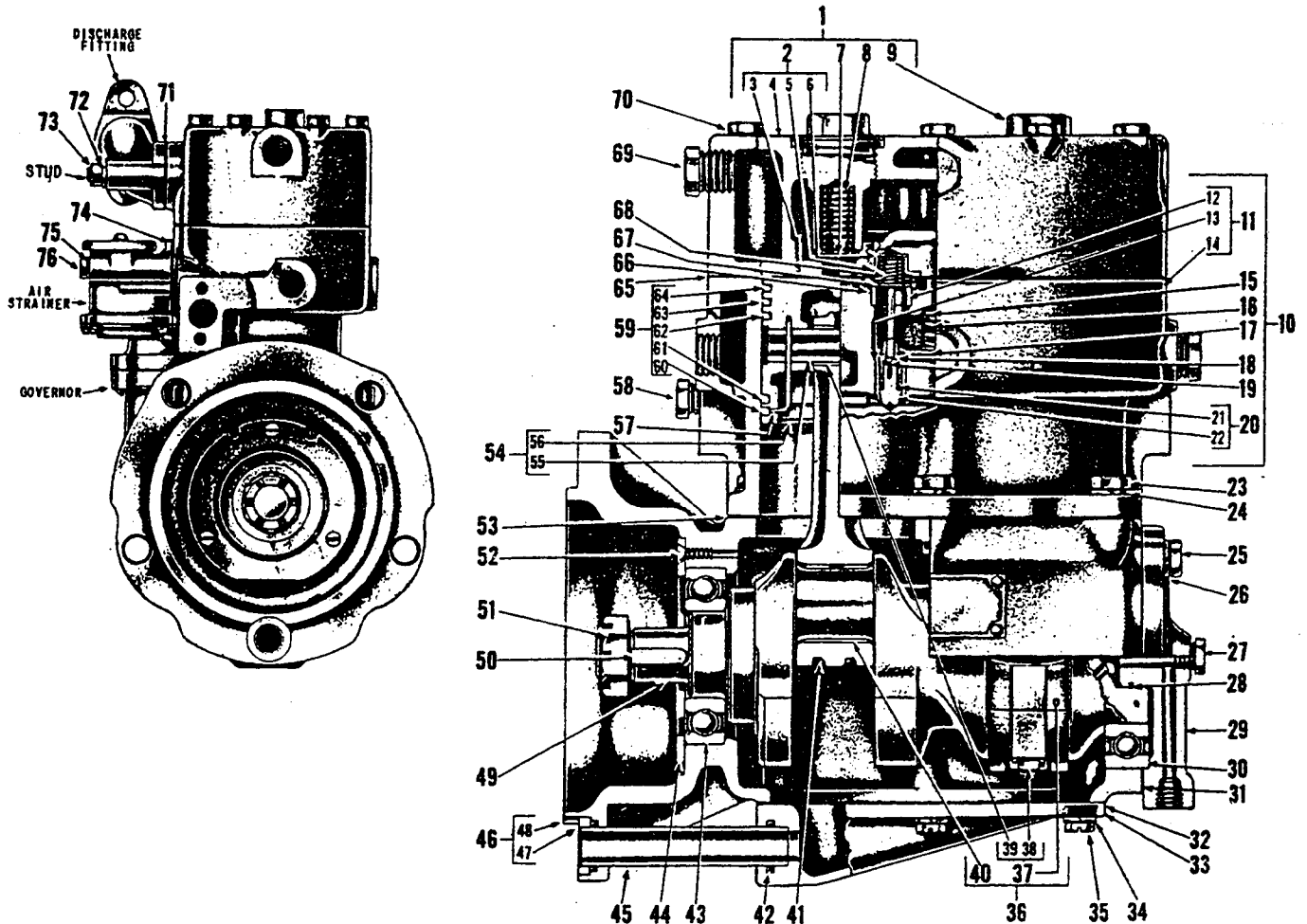


Figure 2

NOTE: Items 42 - 45 - 46 and 47 not used.

## BRAKES

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Air Compressor</u>		
GBK-11278	ADAPTER, strainer	1
2T-423	BOLT, hex head (cad. plated) (5/16" - 18 x 2-7/8")	2
180075	BOLT, hex head (cad. plated) (5/16" - 18 x 5/8")	2
180077	BOLT, hex head (cad. plated) (5/16" - 18 x 3/4")	2
1125072	COMPRESSOR ASSEMBLY, air	1
1125031	. BEARING, ball (30-Fig. 2)	1
1125043	. BEARING, ball (43-Fig. 2)	1
1125010	. BLOCK ASSEMBLY, cylinder (10-Fig. 2)	1
1125011	. . BODY ASSEMBLY, cylinder block (11-Fig. 2)	1
1125014	. . . BODY, cylinder block (14-Fig. 2)	1
1125013	. . . BUSHING, (13-Fig. 2)	2
1125012	. . . SEAT, inlet valve (12-Fig. 2)	2
1125018	. . GUIDE, unloader plunger (18-Fig. 2)	2
1125020	. . PISTON ASSEMBLY, unloader (20-Fig. 2)	2
1125022	. . . GROMMET, (21-Fig. 2)	2
1125023	. . . PISTON, unloader (22-Fig. 2)	2
1125021	. . . RING, back-up (21-Fig. 2)	2
1125019	. . PLUNGER, unloader (19-Fig. 2)	2
1125017	. . SADDLE, unloader spring (17-Fig. 2)	1
1125015	. . SEAT, unloader spring (15-Fig. 2)	1
1125016	. . SPRING, unloader (16-Fig. 2)	1
1125045	. BODY, crankcase (48-Fig. 2)	1
1125036	. CAPSCREW, (35-Fig. 2)	6
1125026	. CAPSCREW, (25-Fig. 2)	4
1125024	. CAPSCREW, (23-Fig. 2)	6
1125071	. CAPSCREW, (76-Fig. 2)	2
1125067	. CAPSCREW, (70-Fig. 2)	10
1125030	. COVER, rear end (29-Fig. 2)	1
1125034	. COVER, crankcase (33-Fig. 2)	1
1125046	. CRANKSHAFT (49-Fig. 2)	1
1125070	. GASKET, strainer (74-Fig. 2)	1
1125068	. GASKET, discharge fitting (71-Fig. 2)	1
1125062	. GASKET, cylinder head (65-Fig. 2)	1
1125032	. GASKET, end cover (31-Fig. 2)	1
1125033	. GASKET, crankcase cover (32-Fig. 2)	1
1125050	. GASKET, cylinder block (53-Fig. 2)	1
1125063	. GUIDE, inlet valve (66-Fig. 2)	2
1125001	. HEAD ASSEMBLY, cylinder (1-Fig. 2)	1
1125002	. . BODY ASSEMBLY, cylinder head (2-Fig. 2)	1
1125004	. . . BODY, cylinder head (4-Fig. 2)	1
1125005	. . . INSERT, inlet valve spring (5-Fig. 2)	2
1125006	. . . SEAT, inlet valve spring (6-Fig. 2)	2
1125003	. . . SEAT, discharge valve (3-Fig. 2)	2
1125009	. . NUT, discharge valve cap (9-Fig. 2)	2



## BRAKES

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Air Compressor (continued)</u>		
1125008	. . SPRING, discharge valve (8-Fig. 2)	2
1125007	. . VALVE, discharge (7-Fig. 2)	2
1125047	. KEY, crankshaft (50-Fig. 2)	1
1125027	. LOCKWASHER (26, 72 & 75 - Fig. 2)	8
1125025	. LOCKWASHER (24-Fig. 2)	6
1125035	. LOCKWASHER (34-Fig. 2)	6
1125042	. LOCKWASHER (41-Fig. 2)	4
1125054	. LOCKWIRE, wrist pin (57-Fig. 2)	2
1125069	. NUT (73-Fig. 2)	2
1125048	. NUT (51-Fig. 2)	1
1125051	. PISTON and WRIST PIN SET (54-Fig. 2)	2
1125052	. . PIN, wrist (55-Fig. 2)	2
1125053	. . PISTON, (56-Fig. 2)	2
1125028	. PLUG, pipe (1/8") (27-Fig. 2)	1
1125055	. PLUG, pipe (1/4") (58-Fig. 2)	1
1125066	. PLUG, pipe (3/8") (69-Fig. 2)	6
1125044	. RETAINER, bearing (44-Fig. 2)	1
1125029	. RING, oil seal (28-Fig. 2)	1
1125056	. RING SET, piston (59-Fig. 2)	1
25057	. . RING, piston (60 thru 64-Fig. 2)	10
1125037	. ROD, connecting - complete (36-Fig. 2)	2
1125041	. . INSERT, bearing (40-Fig. 2)	4
1125038	. . ROD and CAP ASSEMBLY, connecting (37-Fig. 2)	2
1125039	. . . BOLT (38-Fig. 2)	4
1125040	. . . BUSHING, wrist pin (39-Fig. 2)	2
1125049	. SCREW, machine (52-Fig. 2)	3
1125065	. SPRING, inlet valve (68-Fig. 2)	2
1125073	. STUD, head	2
1125064	. VALVE, inlet (67-Fig. 2)	2
64T-83	ELBOW, compressor fitting (1/2 P x 3/4T)	1
64T-84	ELBOW, compressor fitting (3/4 P x 3/4T)	1
444486	ELBOW, street (90° - 3/4 - 14 BRASS)	1
GBK-11296	FITTING, air compressor discharge	1
GBK-11277	GASKET, air compressor governor	1
GBK-11396	HOSE, air compressor cooling system (13/32" I. D. x 2. 7")	1
120214	LOCKWASHER, (cad. plated 5/16")	4
131183	LOCKWASHER, (#10)	4
120376	NUT, hex 5/16" - 18 cad. plated)	2
120221	SCREW, (#10-24 x 1/2")	4

### Air Brake Lines

1-83	CLAMP, low air pressure hose	2
140306	CONNECTOR, elbow (3/8 T x 1/4 P)	1

# BRAKES

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Air Brake Lines (continued)</u>		
MH440-2623	CONNECTOR, straight (3/8 T x 1/2 P )	1
59T-2	ELBOW, pipe (1/8")	1
GBK-11297	GASKET, flexible line to discharge fitting	1
GBK-10614	HOSE ASSEMBLY, tee at bulkhead to air governor	1
GBK-10615	HOSE ASSEMBLY, air governor to spit valve	1
GBK-10616	HOSE ASSEMBLY, normal stop cylinder to Skinner valve	1
GBK-10617	HOSE ASSEMBLY, fast idle cylinder to Skinner valve	1
GBK-10618	HOSE ASSEMBLY, Skinner valve to throttle safety cylinder	1
GBK-10619	HOSE ASSEMBLY, tee at bulkhead to Skinner air valve	1
64T-39	TEE, male branch (1/8")	2
GBK-11275	TUBE, air horn to compressor intake	1
GBK-11279	TUBE, air reservoir to automatic drain valve	1

# CLUTCH

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Clutch Assembly</u>		
181638	BOLT (3/8" - 24 x 1-1/8" hex head)	18
GBK-8953	CARRIER and BEARING ASSEMBLY, clutch throw-out	1
GBK-8955	. BEARING, clutch throw out	1
GBK-8954	. CARRIER, clutch throw out bearing	1
GBK-8956	. PLATE, clutch throw out bearing	2
2T-424	. SCREW, flat, socket head (#8-32 x 1/2" nylok)	4
GBK-8957	. SPRING, clutch throw out bearing	2
GBK-8950	CLUTCH	1
895001	. COVER PLATE ASSEMBLY	1
895025	. . CAPSCREW	12
895016	. . COVER PLATE and DRIVE BLOCK ASSEMBLY	1
895019	. . . BLOCK, drive	6
895020	. . . LOCATOR, pressure spring	24
895018	. . . LOCKWASHER, (7/16" med.)	6
895017	. . . NUT, hex (7/16 - 20 thd.)	6
895021	. . NUT, release lever adjusting	6
895026	. . NUT, stover (5/16" - 24 thd.) self locking	12
895005	. . PLATE and LEVER ASSEMBLY, pressure	1
895009	. . . PIN, cotter (3/32" x 5/8" long)	12
895010	. . . PIN, release lever	6
895007	. . . PIN, release lever	6
895006	. . . PLATE, pressure	1
895008	. . . ROLLER, release lever needle	168
895012	. . . SPRING, release lever	6
895014	. . . UNIT, release lever and thrust button	6
895015	. . . . BUTTON, lever thrust	6
895013	. . . WASHER	12
895011	. . . YOKE, release lever	6
895022	. . PLATE, thrust	6
895024	. . SPRING, pressure	24
895023	. . WASHER, pressure spring insulator	24
895002	. MEMBER ASSEMBLY, driven (flywheel side)	1
895003	. MEMBER ASSEMBLY, driven (pressure plate side)	1
895004	. PLATE, center drive	1
GBK-9110	CUP, grease	1
GBK-9060	LEVER, clutch	1
120382	LOCKWASHER, (3/8")	18
<u>Clutch Control</u>		
GBK-9023	BEARING, clutch control flange	2
31608	BOLT (5/16" - 24 x 1")	7
GBK-9041	BOLT, eye	1
271749	BOLT, hex head (3/8" - 18 x 2-1/4")	1

## CLUTCH

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Clutch Control (continued)</u>		
GBK-9006	BRACKET ASSEMBLY, clutch bell crank	1
GBK-9020	BRACKET, clutch return	1
GBK-9038	BRACKET, clutch extension	1
5T-85	CLAMP, rubberized	1
GBK-9021-A	CONTROL ASSEMBLY, clutch forward	1
181648	. BOLT, (3/8" - 24 x 2")	2
119512	. FITTING, grease	2
113782	. KEY, Woodruff (1/4" x 1")	2
GBK-9042-A	. LEVER, clutch forward control	1
GBK-9035-A	. LEVER, clutch forward	1
120382	. LOCKWASHER (3/8")	3
120369	. NUT, (3/8" - 24)	3
GBK-9028	. SHAFT, intermediate - clutch control	1
GBK-9022	. SUPPORT and BEARING ASSEMBLY, clutch control	1
GBK-9029	LEVER, clutch control	1
GBK-9002	LEVER ASSEMBLY	1
GBK-9004	. BUSHING, oilite (.876 I. D. x 1.128 O. D. x 1" long)	1
GBK-9005	. BUSHING, oilite (.5015 I. D. x .628 O. D. x 9/16 long)	2
121574	LOCKWASHER, (5/8" med. cad. plated)	1
120380	LOCKWASHER, (1/4" cad plated)	1
121752	LOCKWASHER, external tooth (#8)	4
120214	LOCKWASHER, (5/16" - 24)	7
121358	NUT (5/8" - 18 cad. plated)	1
120622	NUT, hex mach. screw (#8-32)	4
120367	NUT, (1/4" - 28)	2
120368	NUT, (5/16" - 24")	7
114786	PIN, clevis (7/16")	4
138080	PIN, clevis (1/2" x 1-27/64")	1
456173	PIN, cotter (1/8" x 7/8")	1
121222	PIN, cotter (3/32" x 3/4")	4
GBK-9030	ROD ASSEMBLY, clutch linkage	1
117825	. CLEVIS, adjusting	1
451525	. NUT, jam	1
GBK-9032	ROD ASSEMBLY, clutch linkage	1
117825	. CLEVIS, adjusting	1
451525	. NUT, jam	1
GBK-9036	ROD ASSEMBLY, clutch control rear	1
124934	. NUT, jam (1/2" - 20)	1
GBK-9037	. ROD, clutch control rear	1
7T-6	. YOKE, adjusting	1
9415767	SCREW, machine (#8-32 x 1-1/4")	4
GBK-9196	SHAFT, clutch bellcrank lever (short)	1
GBK-9009	SPACER, clutch bell crank lever and bracket	1
1C-9737	SPRING, clutch retracting	1

# CLUTCH

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Clutch Control (Continued)</u>		
GBK-9024	SUPPORT, clutch forward	1
60T-131	WASHER (11/32" I. D. x 1" O. D. x 1/16" thick)	1
120385	WASHER (plain 1/4")	1
446152	WASHER, plain (cad. plated)	4
GBK-9034	WASHER, rod support (Fabric)	2

## Clutch Control Cylinder

2T-421	BOLT, (1/2 - 20 x 2-1/4 cad. plated)	1
GBK-9053	BRACKET, air cylinder	1

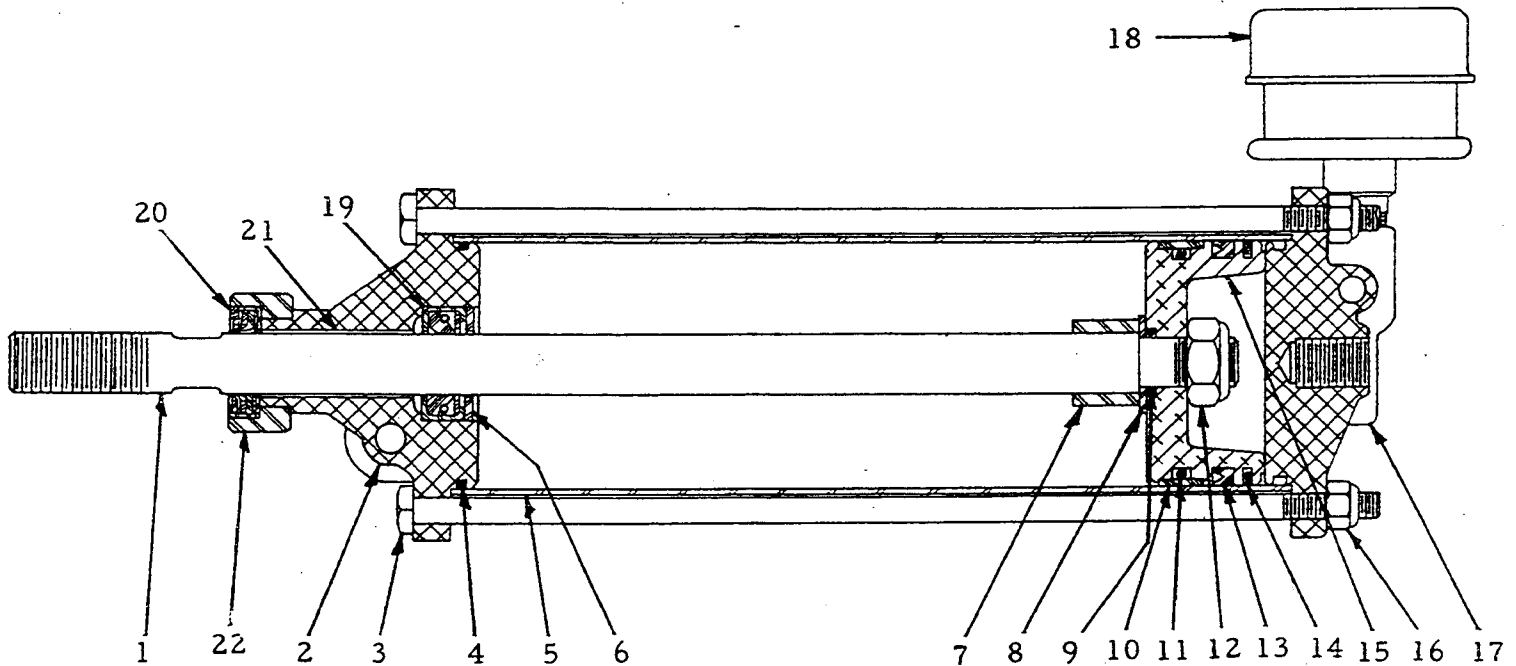


Figure 3

GBK-9069	CYLINDER ASSEMBLY, air	1
906917	. BOLT (3 of fig. 3)	4
906925	. BOOT, air cylinder	1
906915	. BREATHER ASSEMBLY (18 of fig. 3)	1
6919	. BUSHING (7 of fig. 3)	1
906923	. COVER (rear) (17 of fig. 3)	1

# CLUTCH

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Clutch Control Cylinder (continued)</u>		
906924	. KIT, repair	1
906913	. . BLOCK, vee (13 of fig. 3)	1
906901	. . COVER ASSEMBLY, front (2 of fig. 3)	1
906902	. . . BUSHING, (21 of fig. 3)	1
906903	. . . PLUG, pipe	1
906904	. . . RETAINER (22 of fig. 3)	1
906905	. . . SEAL (20 of fig. 3)	1
906906	. . . SEAL (19 of fig. 3)	1
906907	. . . WASHER (6 of fig. 3)	1
906908	. . FELT, piston (14 of fig. 3)	1
906909	. . "O" RING (9 of fig. 3)	1
906910	. . "O" RING (4 of fig. 3)	2
906911	. . "O" RING (11 of fig. 3)	1
906912	. . RING, piston (10 of fig. 3)	1
906922	. NUT, elastic stop (16 of fig. 3)	4
906921	. NUT, elastic stop (12 of fig. 3)	1
906914	. PISTON (15 of fig. 3)	1
906916	. ROD, push (1 of fig. 3)	1
906918	. TUBE, (5 of fig. 3)	1
906920	. WASHER, (8 of fig. 3)	1
GBK-9065	ELBOW, 3/8" brass fitting	2
GBK-9063	END, lower rod	1
GBK-9062	END, upper rod	1
GBK-9066	HOSE ASSEMBLY, supply air assist clutch (1/4" I. D. )	1
GBK-9067	HOSE ASSEMBLY, cylinder air assist clutch (3/8" I. D. )	1
GBK-9111	HOSE ASSEMBLY, clutch bearing tube	1
120384	LOCKWASHER, (1/2")	1
124944	NUT, jam (5/8 - 18")	1
124934	NUT, jam (1/2 - 20")	1
125250	NUT, castellated (1/2 - 20")	2
GBK-9061	NUT, special adjusting	1
138080	PIN, clevis (1/2")	1
431675	PIN, (1/2 x 1-27/64" cad. plated)	1
103374	PIN, cotter (3/32" x 1")	2
103385	PIN, cotter (1/8" x 1")	2
GBK-9064	SCREW, shoulder (1/2" dia.)	1

## Clutch Accumulator, Control Valve and Lever

7T-6	CLEVIS, adjusting (1/2"), clutch valve	1
GBK-9065	ELBOW, 3/8 brass fitting, clutch valve	1
GBK-9068	ELBOW, 5/16" brass fitting, clutch valve	1
124934	NUT, jam (1/2-20")	2
GBK-9059	ROD, upper, clutch valve	1

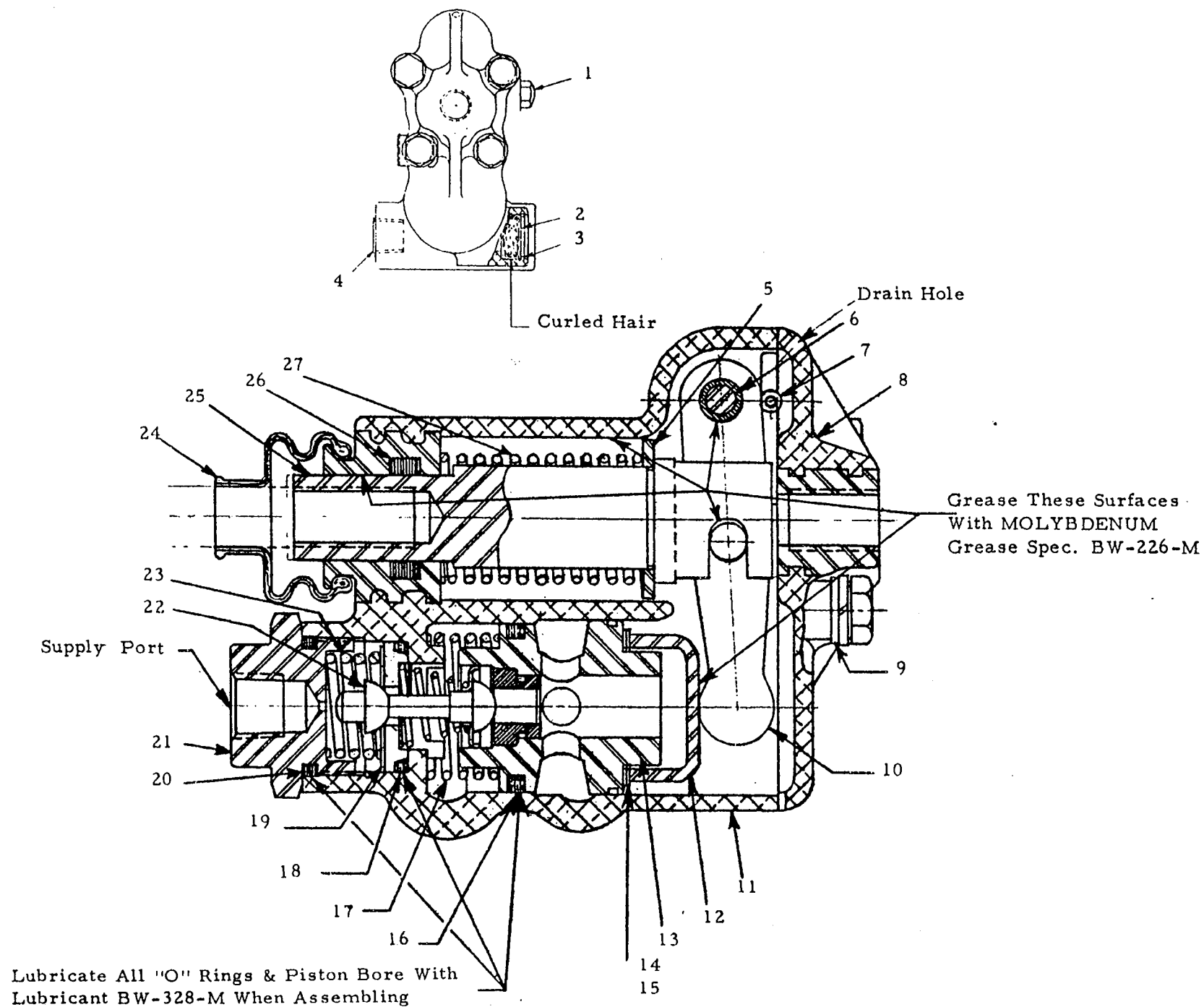


Figure 4

## CLUTCH

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Clutch Accumulator, Control Valve and Lever (continued)</u>		
GBK-9055	ROD ASSEMBLY, clutch valve	1
GBK-9051	VALVE, pull type clutch	1
905129	. BALL TYPE OILER, (5/16 - 32") (1 of fig. 4)	1
905101	. BODY ASSEMBLY, (with insert) (11 of fig. 4)	1
905130	. BOOT (24 of fig. 4)	1
905108	. CAP, inlet (21 of fig. 4)	1
905123	. CAPSCREW, (5/16 - 18" hex head)	4
905121	. COVER, (includes insert) (8 of fig. 4)	1
905102	. FELT OILER (26 of fig. 4)	1
905107	. GROMMET, inlet cap (20 of fig. 4)	1
905103	. GROMMET, inlet valve seat (18 of fig. 4)	1
905111	. GROMMET, piston (16 of fig. 4)	1
N. P. N.	. HAIR, pulled curled	. 01 oz.
905118	. LEVER, (complete) (10 of fig. 4)	1
905133	. . BUSHING	1
905131	. . LEVER	1
905132	. . PIN, lever	1
905122	. LOCKWASHER (5/16")	4
905128	. PIPE PLUG, (1/4") (4 of fig. 4)	1
905120	. PIN, cotter (7 of fig. 4)	1
905119	. PIN, fulcrum (6 of fig. 4)	1
905110	. PISTON and VALVE SEAT, (complete) (13 of fig. 4)	1
905125	. PLATE, strainer (2 of fig. 4)	2
905127	. RING, retaining (3 of fig. 4)	1
905117	. ROD, pull (25 of fig. 4)	1
905114	. SEAT, spring (12 of fig. 4)	1
905106	. SPRING, (23 of fig. 4)	1
905109	. SPRING, piston return (17 of fig. 4)	1
905115	. SPRING, pull rod (27 of fig. 4)	1
905104	. VALVE, inlet and exhaust (complete) (22 of fig. 4)	1
905105	. WASHER (19 of fig. 4)	1
905124	. WASHER, plain (5/16") (9 of fig. 4)	1
905116	. WASHER, pull rod (5 of fig. 4)	1
905113	. WASHER, shim (15 of fig. 4)	As Req.
905112	. WASHER, shim (14 of fig. 4)	As Req.



# COOLING

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Radiator</u>		
444163	ELL, street, brass (1/8" N.P.T.)	1
444284	NIPPLE, (1/8" N.P.T.)	1
444590	PLUG, pipe drain (brass)	1
GBK-9452	RADIATOR ASSEMBLY (Less Controls)	1
GBK-9451	RADIATOR ASSEMBLY (With Controls)	1
945005	. BAR, header (long)	4
945006	. BAR, header (short)	4
945011	. CAP, radiator (w/chain)	1
945016	. CAPSCREWS, hex head (5/16 - 18 x 1" long)	88
945013	. CAPSCREW, hex head (7/16 - 14 x 1-3/8" long)	2
945007	. CORE and HEADER ASSEMBLY	1
945010	. GASKET	2
945019	. LOCKWASHERS, (1/2")	12
945012	. LOCKWASHERS, (5/16") (steel)	94
945014	. LOCKWASHERS, (7/16") (steel)	2
945008	. MEMBER ASSEMBLY, side RH	1
945009	. MEMBER ASSEMBLY, side LH	1
945017	. NUTS, hex (5/16 - 18") (steel)	88
945018	. NUTS, hex (1/2 - 13) (steel)	12
945015	. SCREWS, round head machine (5/16 - 18 x 5/8" long)	6
945004	. SHROUD, fan	1
945001	. SHUTTER ASSEMBLY	1
945053	. . ANGLE, L.H.	1
945054	. . ANGLE, R.H.	1
945051	. . BAR, control (1/4" x 1/2" Alum. )	1
945055	. . BOX ASSEMBLY	1
945041	. . BRACKET, spring anchor	1
945050	. . BRACKET and STUD ASSEMBLY, control	1
945052	. . BUSHING, nylon	32
945040	. . CAPSCREW, hex head (5/16" - 18 x 5/8" long)	1
945043	. . COTTER PIN	1
945056	. . LEVER	1
945039	. . LOCKWASHER (5/16")	1
945038	. . NUT, hex (5/16" - 18")	1
945046	. . RINGS, "E" retaining	6
945044	. . ROD ASSEMBLY, control	1
945058	. . . CLEVIS PIN (5/16 dia.)	1
945060	. . . COTTER PIN (3/32 dia.)	1
945061	. . . LOCKNUT, hex (1/4" - 20)	1
945062	. . . NUT, hex jam (5/16" - 24)	1
945063	. . . ROD, control	1
945064	. . . SPRING (OVERTRAVEL)	1
945065	. . . YOKE, adjustable (5/16")	1
945049	. . SCREW, machine and lockwasher (#10 - 24 x 5/8")	2

# COOLING

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Radiator (continued)</u>		
945042	. . SEAL, sponge rubber	2
945045	. . "SEMS", Phillips truss head (1/4" - 20 x 3/8")	8
945037	. . SPRING	1
945057	. . SPRING, lever	1
945048	. . VANE ASSEMBLY, crank L.H.	16
945047	. . WASHER, vane	6
945003	. TANK ASSEMBLY, bottom	1
945002	. TANK ASSEMBLY, top	1
945059	. CONTROL ASSEMBLY, Vernatherm	1
945022	. . CASTING, flange(1-Fig. 5)	1
945036	. . GASKET, flange (16 - Fig. 5)	1
945033	. . LEVER and SHAFT ASSEMBLY (13 - Fig 5)	1
945024	. . NUT, hex jam (5/8 - 18" N.F. Brass) (4 - Fig. 5)	1
945030	. . PIN, bearing (1/2" dia.) (10 - Fig. 5)	1
945031	. . PLUG, lead (11 - Fig. 5)	1
945021	. . POWER UNIT ASSEMBLY (2 - Fig. 5)	1
945027	. . RING, retaining (7 - Fig. 5)	1
945034	. . RING, retaining (14 - Fig. 5)	2
945023	. . RING, "O" Packing (5/8" I.D.) (3 - Fig. 5)	1
945028	. . ROD, push (8 - Fig. 5)	-
945035	. . ROLLPIN (5/32" dia. x 7/8" long) (15 - Fig. 5)	1
945032	. . SCREW (1/4" - 28" N.F.) (12 - Fig. 5)	1
945025	. . WASHER, (27/32" O.D. x 3/8" I.D.) (5 - Fig 5)	2
945026	. . WASHER, felt (6 - Fig. 5)	1
945029	. . YOKE, crank bearing (9 - Fig. 5)	1
945020	. WASHER, plain (1/2")	12
GBK-9455	VALVE, radiator pressure relief	1

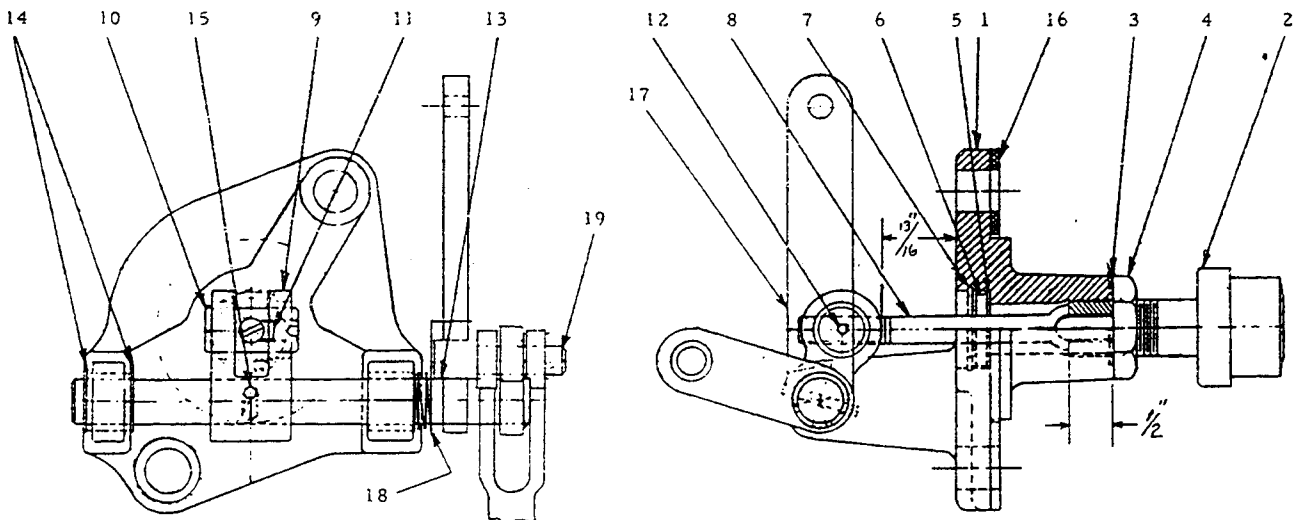


Figure 5

# COOLING

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Radiator Mounting</u>		
213875	BOLT, hex head (1/4" - 28 x 1/2" cad. plated)	1
181567	BOLT, hex head (1/4" - 28 x 1" cad. plated)	2
180081	BOLT, (5/16" - 18 x 1-1/4")	2
181637	BOLT, hex head (3/8" - 24 x 1 cad. plated)	4
181646	BOLT, (3/8" - 24 x 1-3/4")	2
180176	BOLT, (1/2" - 13 x 1-3/8")	4
GBK-9670	BRACKET ASSEMBLY, cooling system lower	1
GBK-9662	BRACKET ASSEMBLY, water cross over tube	1
GBK-9602	BRACKET ASSEMBLY, radiator latch & engine stabilizer	1
GBK-10912	BRACKET, lower keeper	1
GBK-9501	BRACKET ASSEMBLY, radiator support	2
180177	. BOLT (1/2" - 13 NC x 1-1/2" cad. plated)	12
120384	. LOCKWASHER (1/2" med. cad. plated)	12
GBK-9605	CHAIN-SAFETY, pin	1
GBK-10910	KEEPER, door lock upper	1
GBK-9601	LEVER ASSEMBLY, radiator latch	1
960101	. BALL	1
960103	. CAP, adjusting knob	1
960104	. HOUSING, spring ball	1
960102	. SPRING	1
GBK-9606	. PLATE ASSEMBLY, lock	1
GBK-9607	. . WASHER, rubber	1
120382	LOCKWASHER (3/8" cad. plated)	6
120384	LOCKWASHER (1/2")	4
24T-32	NUT, elastic stop (1/2" - 20)	1
120369	NUT, hex (3/8" - 24)	4
114785	PIN, clevis (3/8")	1
137159	PIN, cotter (3/32" x 5/8")	1
GBK-9604	PIN, locking	1
GBK-9633	ROD, radiator stop (ATT. TO RADIATOR)	1
GBK-9631	ROD, radiator stop (ATT. TO CRADLE)	1
GBK-10911	STRIP, upper keeper tapping	1
120388	WASHER, plain (cad. plated)	2
120394	WASHER, plain (3/8")	4
120396	WASHER, plain (1/2")	4

## Water Fittings, Hose and Surge Tanks

180122	BOLT, hex head (3/8" -16)	5
180075	BOLT, hex head (5/16" - 18 x 5/8" cad. plated)	3
181613	BOLT, hex head (5/16" - 24 x 1-3/8")	2
GBK-9663	BRACKET, water tube	1
20322	BUSHING, reducer (1/2" x 3/8")	1
GBK-9653	CLAMP, cooling system hose	8

# COOLING

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Water Fittings, Hose and Surge Tanks (continued)</u>		
GBK-9659	CLAMP, hose (2-13/16" - 3-3/4" range)	6
GBK-9664	ELBOW, radiator (2-3/4" O.D. Bolton type)	1
GBK-9655	ELBOW, radiator (2-3/4" O.D. - 90°)	1
GBK-9651	HOSE, lower flexible radiator (2-3/4" I.D.)	1
GBK-9652	HOSE, upper flexible radiator (3" I.D.)	1
GBK-10604	HOSE ASSEMBLY, engine block supply line to Perry water filler	1
GBK-10605	HOSE ASSEMBLY, Perry water filter to engine block-return line	1
GBK-9658	HOSE, pump inlet (2-3/4" x 4-1/2")	1
GBK-9657	HOSE, pump outlet (2-1/4" x 3-1/2")	2
120382	LOCKWASHER (3/8" cad. plated)	5
120214	LOCKWASHER (5/16")	5
65T-7	NIPPLE, close (3/8" Brass)	1
120368	NUT, hex (5/16 - 24")	2
GBK-11301	THERMOSTAT, engine overheat	1
GBK-9656	TUBE, engine water outlet connecting	1
<u>Fan and Drive</u>		
<u>Fan</u>		
GBK-9802	BLADE ASSEMBLY, engine cooling fan	1
GBK-9801	HUB, engine cooling fan	1
<u>Fan Gear Box</u>		
444000	ADAPTER, brass (1/4 x 1/4" N.P.T.)	1
181709	BOLT, hex head (1/2" - 20 x 2-1/2")	As Req'd
181705	BOLT, (1/2 - 20 x 2" cad. plated)	3
181707	BOLT, (1/2 - 20 x 2-1/4" cad. plated)	1
GBK-9855	BOX, gear (1:1 ratio)( FAN & HYDRAULIC PUMP DRIVE)	1
985037	. CAP, flexible elastoplastic	1
985036	. FITTING, relief (1/4" pipe thd.)	1
985031	. GASKET (red .0025)	As Req'd
985032	. GASKET (pink .016)	As Req'd
985033	. GASKET (tan .004)	As Req'd
985034	. GASKET (clear .008)	As Req'd
985038	. SCREW, button head socket (nylok)	16
985035	. SHAFT, output	1
NOTE - FOR ALL OTHER COMPONENTS SEE - GBK - 9850 ASSY.		
GBK-9850	BOX, gear (1:1 ratio) (FAN DRIVE ONLY)	1
985025	. CAP, flexible elastoplastic	1
985029	. CAPSCREWS, socket head (nylok) (5/16 - 18 x 7/8" long)	4
985004	. CARRIER, bearing	1
985017	. CONE	4

# COOLING

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Fan Gear Box (continued)</u>		
985008	. COVER, shaft (dead end)	1
985006	. COVER, shaft (live end input and output)	1
985002	. COVER, housing	1
985018	. CUP	4
985023	. FITTING, relief (alemite 1/4" pipe thd.)	1
985039	. GASKET, shaft cover .002 Red	As Req.
985040	. GASKET, shaft cover .004 Tan	As Req.
985041	. GASKET, shaft cover .0075 Grey	As Req.
985042	. GASKET, shaft cover .015 Pink	As Req.
985005	. GASKET, bearing carrier	3
985003	. GASKET, housing cover	1
985030	. GEAR & PINION SET, bevel	1
985001	. HOUSING	1
985026	. KEY, (input and output) (1/4 x 1/4 x 1-1/8" long)	1
985024	. PLUG, pipe (3/8" socket head)	2
985020	. RING, snap (external)	1
985019	. RING, snap (internal)	1
985028	. SCREWS, Phillips truss head (5/16-18 x 7/8" long)	16
985021	. SEAL, oil (input and output)	1
985011	. SHAFT, output	1
985010	. SHAFT, input	1
35013	. SPACER, output	2
985012	. SPACER, input	1
103387	COTTER, (1/8 x 1-1/2")	1
187395	COUPLING, pipe (1/4 x 1-3/16" long)	1
124553	KEY, Woodruff	1
120384	LOCKWASHER, (1/2 cad. plated)	4
119291	NIPPLE, pipe (1/4 x 6" long)	6
75T-75	NUT, slotted (1/2 - 20)	1
120371	NUT, (1/2 - 20 cad. plated hex)	4
444584	PLUG, brass (3/8 N. P. T.) Square head	1
GBK-9956	SHIM, (1/16") (Between Gear Box & Support)	As Req.
GBK-9957	SHIM, (1/8") (Between Gear Box & Support)	As Req.
GBK-9958	SHIM, (1/4") (Between Gear Box & Support)	As Req.
GBK-9959	SHIM, (3/8") (Between Gear Box & Support)	As Req.

## Fan Drive, Universal Assembly

14T-39	Key	1
85T-5	LOCKWIRE	1
GBK-11406	PIN, roll (3/16 x 2")	1
78T-20	SET SCREW (square head)	1
GBK-9900	UNIVERSAL ASSEMBLY, fan drive	1
1011704	. KIT, journal and bearing (2-Fig. 6)	2
1011706	. . BEARING ASSEMBLY	4
1011709	. . GASKET, journal	4
1011705	. . JOURNAL CROSS ASSEMBLY	1

# COOLING

Part Number

Part Name

Per  
Vehicle

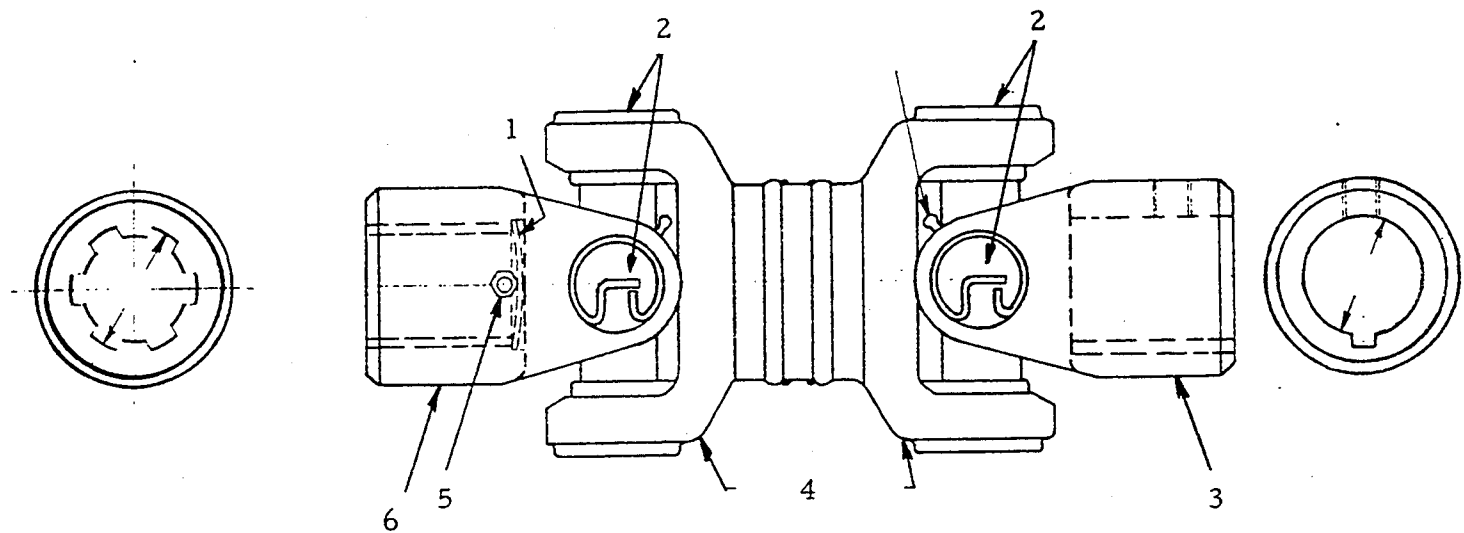


Figure 6

## Fan Drive, Universal Assembly (continued)

935009	. . NIPPLE, zerk (5 - Fig. 6)	1
1011707	. . RING, snap	4
1011703	. . PLUG, sleeve yoke (1 - Fig. 6)	1
990002	. SHAFT SUB-ASSEMBLY (4 - Fig. 6)	1
1011702	. YOKE ASSEMBLY, sleeve (6 - Fig. 6)	1
990001	. YOKE, end (for permanent joint) (3 - Fig. 6)	1

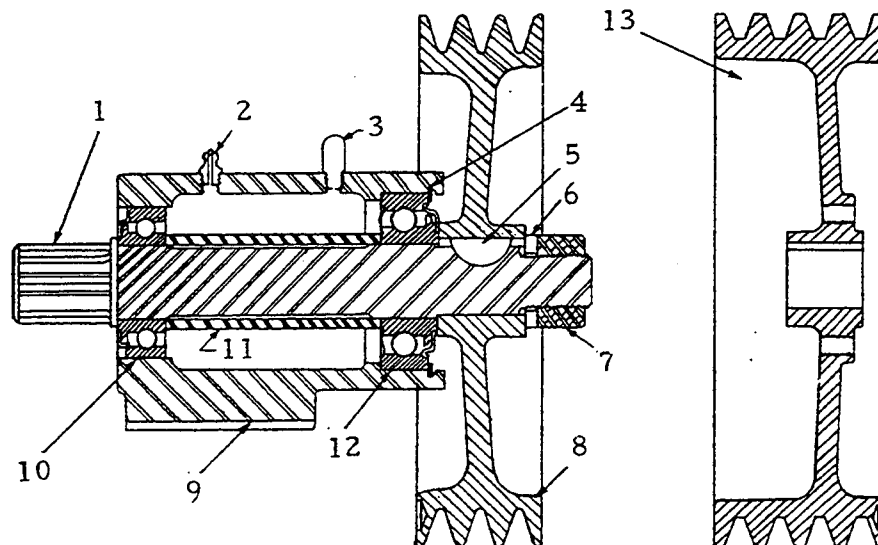


Figure 7

# COOLING

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Pillow Block W/Bracket and Idler Pulley (Engine Cooling)</u>		
GBK-10017	BEARING, ball idler pulley ( 8 & 9 - Fig. 8)	2
2T-419	BOLT, idler adjusting	1
GBK-9950	BRACKET, pillow block fan drive	1
GBK-10116	DOWEL, pillow block (2) and support (2)	4
119512	FITTING, lubrication (7 - Fig. 8)	1
120382	LOCKWASHER, (3/8 med cad. plated)	8
120384	LOCKWASHER, (1/2" med. cad. plated)	4
272920	NUT, lock (3/4" - 16")(6-Fig. 8)	1
272922	NUT, lock (7/8" - 14")(1-Fig. 8)	1
120369	NUT, hex (3/8 - 24" cad. plated)	6
120371	NUT, hex (1/2 - 20" N.F. cad. plated)	4
GBK-10000-A	PILLOW BLOCK ASSEMBLY, (3 groove pulley)	1
GBK-10010-A	. PILLOW BLOCK ASSEMBLY, (w/out pulley)	1
GBK-10016	. . BEARING, pillow block ball (universal end) (10-Fig. 7)	1
GBK-10003	. . BEARING, pillow block ball (pulley end) (12-Fig. 7)	1
GBK-10004	. . BODY, pillow block (9-Fig. 7)	1
119512	. . FITTING, lubrication (cad. plated)(2-Fig. 7)	1
124553	. . KEY, Woodruff (1/4 x 1")(5-Fig. 7)	1

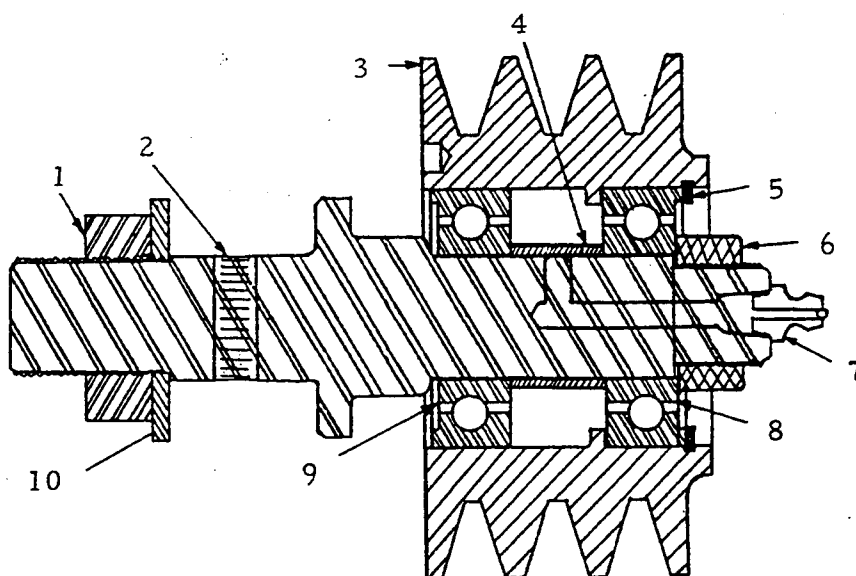


Figure 8

# COOLING

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Pillow Block W/Bracket and Idler Pulley (Engine Cooling)(continued)</u>		
131208	. . LOCKWASHER, (7/8" med. cad. plated)(6-Fig. 7)	1
272257	. . NUT, thick (7/8" - 14" cad. plated)(7-Fig. 7)	2
GBK-10001	. . PULLEY, engine cooling fan drive (8-Fig. 7)	1
GBK-11287	. . RING, retainer (4-Fig. 7)	1
GBK-10002-A	. . SHAFT, pillow block fan drive (1-Fig. 7)	1
GBK-10015	. . SPACER, pillow block bearing (11- Fig. 7)	1
GBK-10008	. . VENT, air (3-Fig. 7)	1
GBK-10006	PULLEY, idler (3-Fig. 8)	1
GBK-10007	RING, snap (5 - Fig. 8)	1
GBK-10005	SHAFT, fan drive idler (2 - Fig. 8)	1
GBK-10014	SPACER, fan idler pulley (4 - Fig. 8)	1
76T-195	STUD, (1/2 - 13 N.C. & 1/2 - 20" N.F. x 2-1/4" long)	4
76T-196	STUD, (3/8 - 16 N.C. & 3/8 - 24" N.F. x 1-3/4" long)	6
60T-172	WASHER, idler shaft (10 - Fig. 8)	1

## Fan Support Assembly

181698	BOLT, hex head (1/2 - 20 x 1-1/4" cad. plated)	5
GBK-9965	BRACE, fan support	1
120384	LOCKWASHER, (1/2" med. cad. plated)	
120371	NUT, hex (1/2 - 20" cad. plated)	
GBK-9967	SHIM (between fan support and cradle	As Req.
GBK-9968	SHIM (1/16") (between fan support & cradle)	As Req.
GBK-9969	SHIM (1/8") (between fan support & cradle)	As Req.
GBK-9970	SHIM (1/4") (between fan support & cradle)	As Req.
GBK-9971	SHIM (3/8") (between fan support & cradle)	As Req.
GBK-9960	SUPPORT, fan	1



## ELECTRICAL

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Stop and Tail Lamps</u>		
162459	SCREW, oval head (#10 - 12 x 5/8") (attach stop and tail light)	4
GBK-11079	SEAL, tail light rim (rubber)	4
<u>Target and License Lamp</u>		
5T-59	CLIP	1
5T-88	CLIP	3
89T-4	GROMMET (license plate light hole)	1
GBK-11025	LAMP ASSEMBLY, license	1
1102502	. BACK ASSEMBLY (includes - socket - terminal - wire)	1
1102503	. BULB (#67 - 12V-4C. P. )	1
1102501	. HOUSING ASSEMBLY, ( includes - rivet - lens)	1
1102507	. NUT, latch speed type	2
1102506	. PAD, rubber mounting	1
1102504	. SCREWS (#6 - 32 x 1/4" chrome plated Phillips)	3
1102505	. SCREWS (#10 x 1-1/4" sheet metal - type "A")	2
162459	SCREW (#10 - 12 x 5/8")	3
M5-2911	SLEEVE, connector	1
WK-11037	WIRE ASSEMBLY, license plate light	1
<u>Starting Motor</u>		
1114098	STARTING MOTOR ASSEMBLY	1
1114058	STARTING MOTOR ASSEMBLY	1
1945906	. ARMATURE	1
1942257	. BOOT	1
1906988	. BRUSH	8
1918690	. BUSHING, insulated terminal stud - (C. E. )	1
1937116	. BUSHING, insulated terminal stud	1
1949109	. COIL ASSEMBLY, field (4 coils)	1
1945499	. . STUD, terminal	1
1945468	. CONNECTOR, terminal to switch	1
1945487	. DRIVE ASSEMBLY, starter	1
1945514	. FRAME, commutator end	1
38273	. . BUSHING, (C. E. )	1
103893	. . PLUG, end (C. E. )	1
125947	. . PLUG, pipe (C. E. )	1
1917241	. . WICK, (C. E. )	1
1945476	. GASKET, between lever housing and drive housing	1
1945477	. GASKET, cover plate	2
15469	. GASKET, terminal stud	1
1916320	. GASKET, plug, lever housing	1
1945475	. GUIDE, plunger rod	1

## ELECTRICAL

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Starting Motor (continued)</u>		
1947262	. HOUSING, lever (for - 1114058)	1
1945510	. HOUSING, lever (for - 1114098)	1
1923484	. . BUSHING, lever housing	1
125947	. . PLUG, pipe lever housing	1
1918047	. . SEAL, lever housing oil	1
1917241	. . WICK, lever housing	1
1957847	. HOUSING, drive (for - 1114098)	1
1945506	. HOUSING, drive (for - 1114058)	1
1945509	. . BUSHING, (D. E. )	1
273913	. . PLUG, pipe (D. E. ) (1/4" dia.)	1
125947	. . PLUG, pipe, (D. E. ) 11/32" dia.)	1
1909654	. . WICK, (D. E. )	1
1918687	. INSULATOR, terminal stud (C. E. )	1
1945479	. INSULATOR, field coil (C. E. )	1
1945472	. LEVER, shaft	1
1945484	. LEVER, shift (assembly)	1
131098	. LOCKWASHER, lever housing and C. E. frame attaching screw	9
1904376	. LOCKWASHER, brush plate assembly attaching screw	3
121841	. LOCKWASHER, brush lead attaching screw	8
1902494	. LOCKWASHER, terminal stud	3
9412305	. NUT, plunger rod guide adjusting	1
120238	. NUT, terminal stud - (C. E. ) (5/16" thick)	3
120378	. NUT, terminal stud - (C. E. ) (7/16" thick)	1
1916272	. "O" RING, C. E. and lever housing	2
1921805	. "O" RING , shift lever (1/2" dia.)	1
1914373	. "O" RING, shift lever (15/64" dia.)	1
1909531	. "O" RING, terminal stud - (C. E. )	1
1945478	. PLATE, cover	2
1945517	. PLATE ASSEMBLY, brush (less brushes)	1
1861788	. . BUSHING, washer insulated brush holder screw	8
1909521	. . HOLDER, brush	4
120217	. . LOCKWASHER, brush holder screw	8
1874847	. . PLATE, brush holder support (Brass)	1
1874851	. . PLATE, space - brush holder (for 2 hole ground brush)	2
1874848	. . PLATE, space - brush holder (2 hole for insulated brush)	2
1874846	. . PLATE, insulated brush holder	2
1909523	. . PLATE, insulated - brush plate	1
1945518	. . PLATE and STUD, brush	1
446646	. . SCREW, brush holder (short ground brush)	2
1861787	. . SCREW, brush holder (long ground brush)	2
1912728	. . SCREW, brush holder (short insulated brush)	2
1861786	. . SCREW, brush holder (long insulated brush)	2
1945521	. . SPRING, brush	8

## ELECTRICAL

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Starting Motor (continued)</u>		
1945356	. PLUG, lever housing	1
1945480	. PLUNGER ASSEMBLY	1
1942282	. RETAINER, spring (13/32" hole)	1
1942256	. RETAINER, spring (1-13/64" hole)	1
9415234	. RING, snap "O" ring retainer and lever shaft	2
1930611	. SCREW and LOCKWASHER, switch attaching	4
1867877	. SCREW, lever housing attaching and C. E. frame	9
1945861	. SCREW, (5/16 - 18 x 55/64")	1
1945473	. SCREW, drive housing attaching (5/16-18 x 1-1/2")	5
132760	. SCREW, brush plate assembly attaching	3
121749	. SCREW, brushlead attaching	8
9412358	. SCREW, cover plate	4
1843646	. SCREW, pole shoe	8
1934478	. SHOE, pole	4
1942260	. SPRING, shift lever assembly	1
1945470	. TERMINAL and LEAD, C. E. to solenoid	1
1945474	. WASHER, retainer spring	1
1911644	. WASHER, brake - (between lever housing and motor drive)	1
1936466	. WASHER, space - (between lever housing and armature)	1
810794	. WASHER, brush plate assembly attaching screw (plain)	3
1861791	. WASHER, insulated terminal stud - C. E. (7/8" O. D.)	2
1905014	. WASHER, thrust - (C. E.)	1
811912	. WASHER, terminal stud (plain)	2
1922457	. WASHER, insulated terminal stud	2

Generator

180128	BOLT, hex head (cad. plated) (3/8 - 16 x 1-1/4")	3
2T-418	CAPSCREW, nylok socket (7/16 - 14 x 1" long)	1
2T-417	CAPSCREW, nylok socket (1/2 - 13 x 1" long)	4
GBK-10708	COVER, alternator air supply hole	1
14P-1031	. GROMMET, (cover, alternator air supply hole)	1
122427	CAPSCREW	5
127960	ELBOW, street (1/8" x 90°)	1
GBK-11294	GASKET, engine to adapter	1
GBK-11290	GASKET, generator drive to generator	1
GBK-11289	GASKET, adapter to generator drive	1
GBK-11283	GEAR ASSEMBLY, drive	1
1T-5	. BEARING, ball (Use in 11283 assembly)	2
GBK-11284	. BOX, generator drive gear	1
GBK-11288	. GEAR, internal	1
14T-43	. KEY, (use in 11283 assembly)	1
14T-31	. NUT, hex lock (3/4" - 16 NF3)	1
GBK-11287	. RING, snap	1

# ELECTRICAL

Part Number

Part Name

Per  
Vehicle

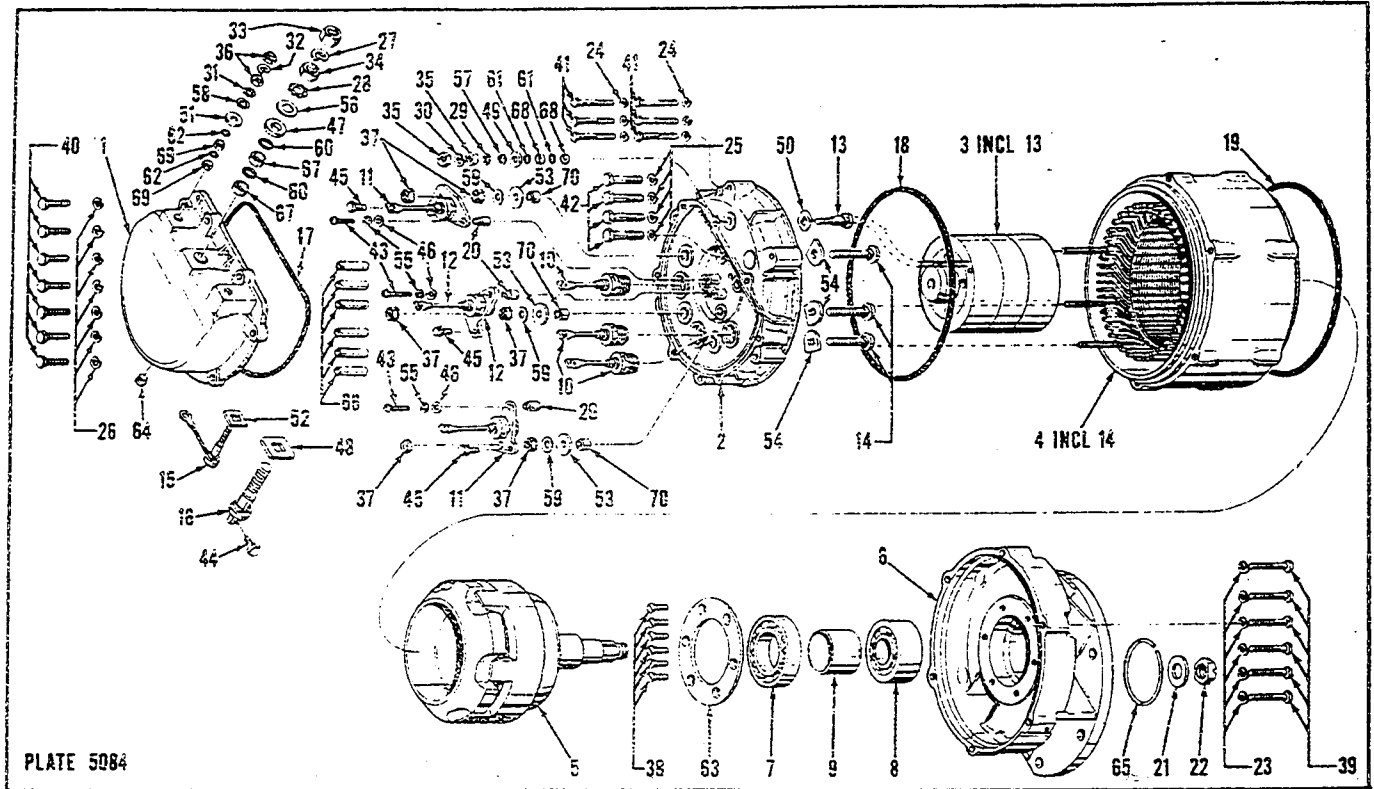


Figure 9

## Generator (continued)

GBK-11285	. SHAFT and PINION, generator drive	1
GBK-11286	. SPACER, bearing	1
60T-174	. WASHER, plain	1
GBK-11252	GENERATOR and PINION ASSEMBLY	1
GBK-11280	. GENERATOR, (oil cooled)	1
903209	. . BALL BEARING, inner (D.E.) (7 - Fig. 9)	1
954533	. . BALL BEARING, outer (D.E.) (8 - Fig. 9)	1
1952195	. . BUSHING, insulated field terminal and terminal stud	2
1952212	. . BUSHING, insulated - stator terminal (1" O.D.)	1
1941063	. . COVER, diode end (1-Fig. 9)	1
1953025	. . DIODE and BRACKET ASSEMBLY (12 - Fig. 9)	1
1941058	. . . BRACKET, heat sink (part of 1953025)	1
1953024	. . DIODE and BRACKET ASSEMBLY (11 - Fig. 9)	2
1941059	. . . BRACKET, heat sink (part of 1953024)	2
1953023	. . DIODE, in frame (10 - Fig. 9)	1
1946568	. . FIELD ASSEMBLY (3 - Fig. 9)	1
1959519	. . FRAME, (D.E.) (6-Fig. 9)	1

## ELECTRICAL

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Generator (continued)</u>		
1946558	. . FRAME, diode end (2-Fig. 9)	1
121637	. . LOCKWASHER, (spring type) (23-24-26-30-32 Fig. 9)	22
138484	. . LOCKWASHER, terminal, field and relay (external tooth) (29-31 Fig. 9)	3
135629	. . LOCKWASHER, terminal (D. C.) (external tooth)(28 Fig. 9)	1
1902494	. . LOCKWASHER, terminal (D. C.) (spring type) (27-Fig. 9)	1
120217	. . LOCKWASHER, diode support bracket nut	4
120381	. . LOCKWASHER, field attaching screw (25-Fig. 9)	4
120614	. . NUT, diode support bracket attaching	4
1945422	. . NUT, (and lockwasher) terminal stator (37 - Fig. 9)	6
120367	. . NUT, terminal field and relay (35-36 Fig. 9)	6
422967	. . NUT, terminal, (D. C.) (5/16" thick) (34-Fig. 9)	1
114548	. . NUT, terminal, (D. C.) (7/16" thick) (33-Fig. 9)	1
1941001	. . NUT, shaft (22 - Fig. 9)	1
1941041	. . "O" RING, relay and field terminal (61-62 - Fig. 9)	5
1941043	. . "O" RING, (D. C. terminal) (60-Fig. 9)	2
1941057	. . "O" RING, (stator & D. E.) (18-19-Fig. 9)	2
1942423	. . "O" RING, cover (17-Fig. 9)	1
1941060	. . PLATE, retainer (bearing D. E.) (63-Fig. 9)	1
1137175	. . PLUG, pipe (diode end cover) (64-Fig. 9)	1
1941052	. . RING, retaining (bearing D. E.) (rubber) (65-Fig. 9)	1
1941002	. . ROTOR ASSEMBLY (5-Fig. 9)	1
120585	. . SCREW, (bearing retainer plate attaching) (38-Fig. 9)	6
121954	. . SCREW, (D. E. frame attaching) (39-41 Fig. 9)	12
1905877	. . SCREW, (diode end cover attaching) (40-Fig. 9)	7
100030	. . SCREW, field attaching (42-Fig. 9)	4
423337	. . SCREW and LOCKWASHER, (diode lead attaching to D. C. terminal) (44-Fig. 9)	1
423336	. . SCREW and LOCKWASHER, (diode lead attaching to support plate) (45-Fig. 9)	3
1941055	. . SLEEVE, insulated (D. C. terminal) (67-Fig. 9)	2
1941039	. . SLEEVE, insulated (relay and field terminal) (68-69-Fig. 9)	3
1941056	. . SPACER (9-Fig. 9)	1
1952193	. . SPACER, bracket (20-Fig. 9)	3
1941018	. . STATOR ASSEMBLY (4-Fig. 9)	1
1941016	. . STUD, terminal (field) (13-Fig. 9)	2
1941036	. . STUD, terminal (stator) (14-Fig. 9)	3
1942421	. . STUD, terminal (relay) (15-Fig. 9)	3
1941054	. . STUD, terminal (D. C.) (16-Fig. 9)	1
1952197	. . WASHER, insulated (stator terminal) (square hole) (54-Fig. 9)	3
1941044	. . WASHER, insulated (field and relay terminal) (3/4" O. D.) (49-51 Fig. 9)	3
1952196	. . WASHER, insulated (D. C. terminal) (1-23/64" square) (48-Fig. 9)	1

## ELECTRICAL

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Generator (continued)</u>		
1907474	. . WASHER, insulated (D. C. terminal) (15-16" O. D.) (47-Fig. 9)	1
1905125	. . WASHER, plain (field and relay terminal) 57-58-Fig. 9)	3
30205	. . WASHER, plain (D. C. terminal) (56-Fig. 9)	1
1940999	. . WASHER, plain (diode support bracket attaching screw) (55-Fig. 9)	3
1941000	. . WASHER, plain (stator terminal) (59-Fig. 9)	3
1942422	. . WASHER, shaft (21-Fig. 9)	1
GBK-11253	. PINION, generator	1
GBK-10621	HOSE ASSEMBLY, generator drain	1
120384	LOCKWASHER	11
120378	NUT	6
124934	NUT, jam (1/2" - 20)	1
456174	PIN, cotter (1/8" x 1 cad. plated - for gen. & pinion assy.)	1
GBK-11292	PLATE, adapter	1
444572	PLUG, pipe (1/8" brass square head)	1
GBK-11293	SCREW, adjusting	3
GBK-11251	SHIM, generator drive (.002)	1
GBK-11254	SHIM, generator drive (.005)	1
GBK-11255	SHIM, generator drive (.010)	1
111635	STUD, bolt	6
GBK-11210	SUPPORT ASSEMBLY, (adjusting generator) (Used on cradles 1-2-36-37 and 151 and up)	1
GBK-11212	. BALL JOINT and SADDLE ASSEMBLY	1
124934	. NUT, ball joint jam	1
GBK-11211	. SUPPORT BRACKET, generator	1
GBK-11219	TAG, instruction (Generating support adj.)	1

Voltage and Current Regulator

181595	BOLT, hex head (5/16" - 24 x 3/4" cad. plated)	4
GBK-10565	BRACKET, voltage regulator	1
120214	LOCKWASHER, (5/16" cad. plated)	4
120368	NUT, hex (5/16 - 24" cad. plated)	3
GBK-10551	REGULATOR, (transistor type)	1
1941480	. BASE (5-Fig. 10)	1
1949471	. BLOCK, terminal (4-Fig. 10)	1
1941822	. BRACKET, mounting (55-Fig. 10)	1
1864279	. BUSHING, insulated (56-Fig. 10)	5
1941485	. COVER, (1-Fig. 10)	1
1941482	. GASKET, cover (2-Fig. 10)	1
1942826	. GASKET, terminal block (57-Fig. 10)	1
1942829	. INSULATOR (2 hole)	1
1941466	. INSULATOR (transistor)(58-Fig. 10)	1

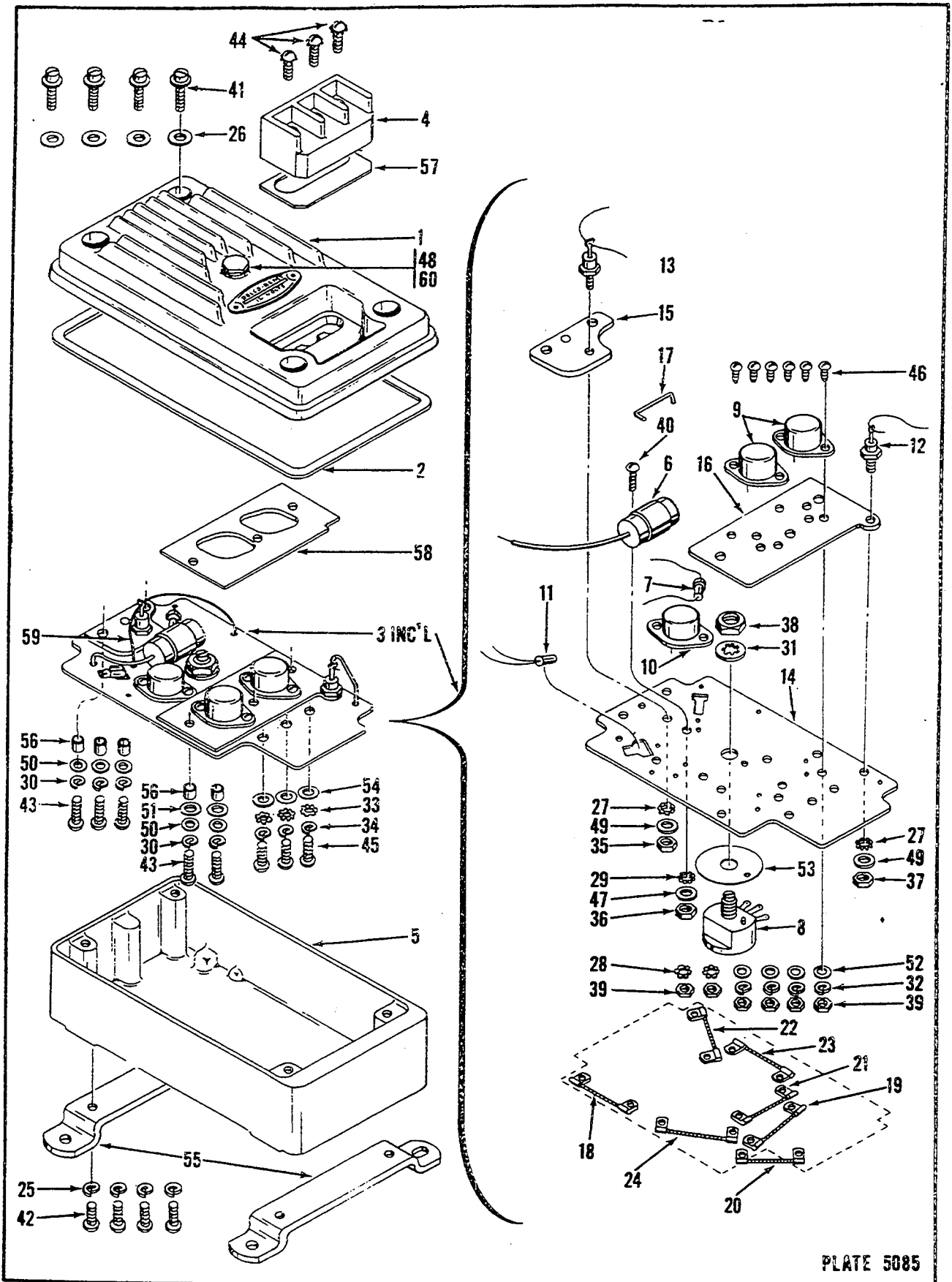


PLATE 5085

Figure 10

## ELECTRICAL

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Voltage and Current Regulator (continued)</u>		
1941472	. LEAD, in panel (59-Fig. 10)	1
453288	. LOCKWASHER, (terminal block attaching screw) (Spring type) (34 - Fig. 10)	3
138479	. LOCKWASHER, (terminal block attaching screw) (external tooth) (27-Fig. 10)	3
121841	. LOCKWASHER, (panel attaching screw) (30-Fig. 10)	5
1941483	. LOCKWASHER, (cover attaching screw) (26-Fig. 10)	4
120217	. LOCKWASHER, (bracket attaching screw) (25-Fig. 10)	4
1941463	. PANEL ASSEMBLY, (3 - Fig. 10)	1
1941473	. . CAPACITOR, filter (7-Fig. 10)	1
1941391	. . CAPACITOR, feed back (6-Fig. 10)	1
1941468	. . CIRCUIT, printed (14-Fig. 10)	1
1942831	. . DIODE, back bias (13-Fig. 10)	1
1941474	. . DIODE, field discharge (12-Fig. 10)	1
1941479	. . DIODE, zener (voltage regulating) (11-Fig. 10)	1
138479	. . LOCKWASHER, (diode and capacitor) (29-33-Fig. 10)	3
455714	. . LOCKWASHER, (driver transistor attaching screw) (28-Fig. 10)	2
453289	. . LOCKWASHER (power transistor attaching screw) (32-Fig. 10)	4
138545	. . LOCKWASHER (potentiometer attaching nut) (31-Fig. 10)	1
453284	. . NUT (back bias diode and capacitor attaching) (35-36 - Fig. 10)	2
1949160	. . NUT (field discharge diode attaching) (37-Fig. 10)	1
1949161	. . NUT (potentiometer attaching) (38-Fig. 10)	1
9415565	. . NUT (transistor attaching screw) (39-Fig. 10)	6
1941467	. . PLATE, transistor (16-Fig. 10)	1
1942830	. . PLATE, diode (15-Fig. 10)	1
1941477	. . POTENTIOMETER (8-Fig. 10)	1
1910179	. . RESISTOR (18-21-Fig. 10)	2
1912745	. . RESISTOR (20-Fig. 10)	1
1911515	. . RESISTOR (19-24-Fig. 10)	2
1910174	. . RESISTOR (22-Fig. 10)	1
1910183	. . RESISTOR (23-Fig. 10)	1
1941471	. . RESISTOR, feed back (17-Fig. 10)	1
446653	. . SCREW, (capacitor attaching) (40-Fig. 10)	1
453986	. . SCREW, (transistor attaching) (46-Fig. 10)	6
1941464	. . TRANSISTOR, driver (10-Fig. 10)	1
1944748	. . TRANSISTOR, power (9-Fig. 10)	2
1941475	. . WASHER, (insulated potentiometer) (53-Fig. 10)	1
1903777	. . WASHER, plain (transistor attaching) (52-Fig. 10)	4
1905762	. . WASHER, plain (diode and capacitor attaching nut) (47-49-Fig. 10)	3
1925919	. PLUG (adjustment cover) (60-Fig. 10)	1
1941484	. SCREW (cover attaching) (41-Fig. 10)	4
132908	. SCREW (mounting bracket attaching) (42-Fig. 10)	4
454155	. SCREW (panel attaching) (43-Fig. 10)	5



## ELECTRICAL

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Voltage and Current Regulator (continued)</u>		
455713	. SCREW (terminal block attaching) (45-Fig. 10)	3
191245	. SCREW and LOCKWASHER (Terminal) (#10-32 x 3/8) (44-Fig. 10)	3
1933324	. WASHER, insulated (panel attaching screw) (51-Fig. 10)	2
1905762	. WASHER, plain (terminal block attaching screw) (54-Fig. 10)	3
1949157	. WASHER, plain (panel attaching screw) (50-Fig. 10)	5
1949162	. WASHER, plain (cover plug) (48-Fig. 10)	1
<u>Instruments</u>		
128140	BUSHING, reducer (3/4" x 1/2")	1
GBK-10566	GAUGE UNIT, engine thermo	1
<u>Speedometer</u>		
GBK-9255	ADAPTER (speedometer drive)	1
180120	BOLT, hex head cad. plated (3/8 - 16 x 3/4")	2
181567	BOLT, hex head (1/4 - 28 x 7/8")	2
GBK-9265	BRACKET ASSEMBLY (speedometer adapter support)	1
GBK-9253	DRIVE UNIT, speedometer	1
925301	. BALL BEARING	1
925302	. BRUSH, rotor	1
925303	. BRUSH and BRUSH HOLDER ASSEMBLY	1
925304	. . BRUSH and TERMINAL ASSEMBLY (cover, positive terminal)	1
925305	. BRUSH and TERMINAL ASSEMBLY, (housing, ground terminal)	1
925306	. COVER, housing	1
925307	. GASKET, (brush holder and cover)	1
925308	. GASKET, (housing and plug)	1
925309	. GASKET, (housing and ground terminal)	1
925310	. GASKET, (resistor ring)	1
925311	. HOUSING	1
925312	. LINER, insulator	1
925313	. LOCKWASHER (housing and cover screw)	1
925314	. LOCKWASHER (housing and terminal)	1
925315	. NUT (housing and ground terminal)	1
925316	. RING and PLUG ASSEMBLY, resistor	1
925318	. . INSULATOR, ring	1
925319	. . PLUG ASSEMBLY	1
925317	. . RESISTOR ASSEMBLY	1
925320	. . SLEEVE, insulating	1
925321	. SCREW (brush and rotor connection)	1
925322	. SCREW (housing and cover)	1
925323	. SCREW-SET (housing and plug)	1
925324	. SCREW-SET (brush holder)	1

## ELECTRICAL

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Speedometer (continued)</u>		
925325	. SEAL-OIL, rotor shaft	1
925326	. SHAFT and ROTOR ASSEMBLY	1
925327	. SPRING, rotor brush	1
925328	. WASHER (brush and rotor screw) (Brass)	1
925329	. WASHER (bearing dust) (Brass)	1
925330	. WASHER (bearing dust) (wool felt)	1
925331	. WASHER (housing and terminal) (fibre)	1
925332	. WASHER (cover and oil seal)	1
GBK-9261	EXTENSION, core tip (Speedometer drive)	1
120380	LOCKWASHER (1/4")	2
120382	LOCKWASHER (3/8")	2
120367	NUT, hex (1/4-28)	2
GBK-9256	SHAFT ASSEMBLY, flexible	1
GBK-9260	SLEEVE EXTENSION	1
<u>Solenoid</u>		
GBK-11317	BRACKET ASSEMBLY, solenoid valve	1
GBK-9175	BRACKET ASSEMBLY, reverse shift	1
GBK-9176	. BRACKET	1
GBK-9185	. BUSHING	2
GBK-9183	. FORK, reverse shift	1
GBK-9182	. LEVER	1
454565	. PIN, spring	2
GBK-9181	. SHAFT (reverse solenoid and control rod lever)	1
GBK-9196	ROD (transmission shift connecting) (36-3/4" long)	1
GBK-9195	ROD (transmission shift connecting) (34-5/8" long)	1
GBK-9172	ROD, extension connecting	2
GBK-11262	SOLENOID (air intake horn)	1
816863	. BUSHING, insulating (terminal screw)	1
1908010	. CASE and COIL	1
1908019	. COVER	1
1904966	. GASKET, cover	1
131182	. LOCKWASHER (cover attaching screw)	1
1904615	. LOCKWASHER (terminal screw) (No. 8)	1
120622	. NUT, terminal (8-32)	1
1908315	. PLUNGER	1
1908022	. SCREW (cover attaching)	1
822205	. SCREW, terminal	1
1908021	. SPRING, plunger return	1
1838591	. WASHER, insulating (terminal screw - inside)	1
826319	. WASHER, plain (terminal screw - inside)	1
813731	. WASHER, plain (terminal screw - outside)	1
GBK-10559	SOLENOID, reverse (transmission)	1

## ELECTRICAL

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Solenoid (continued)</u>		
1847234	. BOOT, plunger	1
1850890	. BRACKET ASSEMBLY (terminal)	1
1850891	. BRACKET, (terminal)	1
1857307	. CASE and COIL	1
1847233	. CLAMP, boot	1
1847418	. CLIP, terminal	1
1857304	. CONTACT and SUPPORT	1
1850892	. COVER	1
1877519	. GASKET	1
1877518	. GASKET	1
1857308	. INSULATOR, contact	1
1905466	. INSULATOR, terminal	1
1871630	. LINK and SCREW ASSEMBLY	1
121841	. LOCKWASHER	3
1874495	. LOCKWASHER (terminal stud)	1
109723	. NUT (boot clamp screw)	1
134551	. NUT, terminal	1
1847232	. PLUNGER	1
1857306	. ROD, push	1
900465	. SCREW (boot clamp)	1
21749	. SCREW (cover attaching)	1
132760	. SCREW (contact attaching)	1
121832	. SCREW (terminal bracket attaching)	1
GBK-10569	. YOKE, reverse solenoid	1
GBK-10568	YOKE ASSEMBLY	1
2T-425	. BOLT, hex head (5/16"-18 x 1-3/4" cad. plated)	1
120376	. NUT, hex (5/16" - 18 cad. plated)	1
1857300	. SPRING, contact	1
1847243	. STUD, terminal	1
1837223	. WASHER, insulating (bushing) (contact attaching screw)	1
1905124	. WASHER, insulating (bushing) (terminal stud)	1
1860389	. WASHER, insulating (contact attaching screw)	1
813731	. WASHER, plain (contact attaching screw)	1
834560	. WASHER, plain (terminal stud)	1
810085	. WASHER, (space adjusting screw)	1
1872459	. WASHER, (terminal stud)	1
131095	LOCKWASHER (#8)	4
132760	SCREW, round head machine (#8-32 x 1/2")	4
161633	SCREW, cross recess R.H. tapping (#8 x 3/4")	2
1119879	SOLENOID ASSEMBLY (starting motor)	1
1942969	. BUSHING, insulating (terminal stud)	2
945924	. CASE ASSEMBLY (starting motor solenoid)	1
378503	. CLIP, terminal	2
1954861	. CONTACT ASSEMBLY (on push rod)	1

## ELECTRICAL

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Solenoid (continued)</u>		
1906053	. GASKET, ( terminal plate to case)	1
1944836	. INSULATOR (terminal stud)	2
1945161	. NUT (attaching terminal plate to case)	4
	. NUT (terminal stud) (outer)	2
	. NUT (terminal stud) (inner)	2
1946002	. PLATE ASSEMBLY, terminal (starting motor solenoid)	1
1945409	. PLATE, terminal (less terminals)	1
1930611	. SCREW ASSEMBLY, (starting motor solenoid)(1/4 - 20")	4
1888940	. SCREW (terminal solenoid) (#10-32 x 5/16)	2
	. SCREW, attaching (coil head) (#6-32 x 3/16" round slotted head)	1
1945402	. SPRING, contact (on push rod)	1
1909829	. STRAP, ground (solenoid)	1
1855488	. STRIP, insulation (terminal stud)	1
1946004	. STUD, terminal (battery)	1
1946003	. STUD, terminal (motor)	1
1906051	. SUPPORT (terminal plate)	1
1904998	. WASHER (terminal stud) (plain)	2
64T-39	TEE, brass	2
64T-86	TEE, street	2

Switches

GBK-9113	SWITCH, reverse shift	1
----------	-----------------------	---

Fuses, Junction Panels, Buzzer and Relay

GBK-10558	RELAY, field	1
1911461	. ARMATURE	1
1911459	. CONTACT and SUPPORT	1
1850468	. COVER	1
GBK-10560	RELAY, (Engine cutout)	1
GBK-10557	RELAY (generator control)	1
1868137	. CLIP (terminal screw lock)	1
1865603	. COVER	1
1871636	. GASKET, cover	1
1865614	. SCREW, cover	1
1904640	. WASHER, insulating (cover screw)	1
1904641	. WASHER, plain (cover screw)	1
GBK-12000	RECTIFIER ASSY., STARTER & GENERATOR RELAY	1
GBK-12003	. BLOCK, junction	1
GBK-10594	. BRACKET, rectifier	4
GBK-12001	. LEAD, electrical	4
120217	. LOCKWASHER (#10)	1
138479	. LOCKWASHER, shakeproof (#10)	1

## ELECTRICAL

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Fuses, Junction Panels, Buzzer and Relay (continued)</u>		
120614	. NUT	1
GBK-10562	. RESISTOR (field)	1
132908	. SCREW, machine R. H. (#10 - 32 x 1/2")	1
132947	. SCREW, machine R. H. (#10 - 32 x 2-1/2")	1
131015	. WASHER, flat (#10)	1
<u>Wiring</u>		
GBK-10580	BLOCK (battery cable clamp)	2
GBK-10572A	CABLE (battery to electric master switch)	1
GBK-10576A	CABLE (battery positive to ground junction post)	1
GBK-10578	CABLE (main battery junction to engine control panel)	1
GBK-10574A	CABLE (main junction post to starter motor)	1
5T-90	. CLIP, wire (battery cable)	9
GBK-10573	CABLE (master switch to main battery junction)	1
GBK-10577A	CABLE (main battery junction post to generator)	1
5T-70	. CLIP, wire (starter cable)	11
GBK-10575A	CABLE (starting motor to ground junction post)	1
5T-83	CLIP, wire	14
5T-4	CLIP, wire harness (harness to transmission top cover)	1
T-5	CLIP, wire harness (harness to bellhousing)	1
5T-39	CLIP, wire harness (harness to anchor plate)	1
5T-84	CLIP, wire harness (harness to alternator L. S. & R. S. rocker arm)	3
5T-91	CLIP	3
14P-1031	GROMMET (1/2" hole - 1/16" groove) (Voltage regulator harness)	1
19B-14567-A1	GROMMET (1-1/2" hole - 1/8" groove) (Main wiring harness)	1
GBK-10555A	HARNESS (air conditioning and oil gauge)	1
5T-82	. CLIP, wire (harness)	13
GBK-10599	HARNESS (control junction box to amphenol plug) (long)	1
GBK-10556	HARNESS (engine)	1
GBK-10553A	HARNESS (engine control junction panel)	1
5T-86	. CLIP, wire (harness)	9
GBK-10570	HARNESS (rear door lighting)	2
GBK-10597	JUNCTION (battery to switch)	1
GBK-10598	JUNCTION (battery to ground)	1
GBK-10592	LEAD, electrical (speedometer sending unit to ground)	1
GBK-10581	LEAD, electrical (ground to reverse solenoid relay)	2
GBK-10582	LEAD, electrical (post #33 to field relay)	1
GBK-10583	LEAD, electrical (rear run switch to post #4)	1
GBK-10584	LEAD, electrical (starter switch to starter generator relay)	1
GBK-10585	LEAD, electrical (post #4 to reverse relay)	1
BK-10586	LEAD, electrical (post #6 to starter generator relay)	1
GBK-10587	LEAD, electrical (post #29 to field relay)	1

## ELECTRICAL

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Wiring (continued)</u>		
GBK-10588	LEAD, electrical (battery junction to starter generator relay)	1
GBK-10589	LEAD, electrical (battery junction to field relay)	1
GBK-10590	LEAD, electrical (post #4 to reverse solenoid relay)	2
GBK-10591	LEAD, electrical (emergency stop solenoid to ground)	1
GBK-10567	WIRE, destination for plugs #1 & #2	1

Wire Connectors

180120	BOLT, hex head (cad. plated) (3/8 - 16 x 3/4" long)	1
180143	BOLT, hex head (cad. plated) (7/16 - 14 x 3/4" long)	1
GBK-11321	BRACKET (engine amphenol plugs)	1
120382	LOCKWASHER, (3/8" med. cad. plated)	1
120383	LOCKWASHER, (7/16" med. cad. plated)	1

ENGINE		Per
<u>Part Number</u>	<u>Part Name</u>	<u>Vehicle</u>
<u>Crankcase Ventilator, Oil Filler and Breather</u>		
GBK-9106	CAP and CHAIN ASSEMBLY, oil filler tube	1
83T-24	CLAMP, engine breather tube	1
GBK-9666	PLATE ASSY., instruction (crankcase)	1
449905	SCREW, (6-32 x 1/2")	1
GBK-11259	TUBE, engine crankcase breather	1
<u>Engine Mounting</u>		
181566	BOLT, hex. head (1/4" - 28 x 3/4" cad. plated)	1
181693	BOLT, hex head (3/8" - 24 x 3/4" cad. plated)	2
180122	BOLT, (3/8" - 16 x 1")	2
191249	BOLT, (3/8" - 16 x 3-3/4")	2
180145	BOLT, hex. head (7/16" - 14 x 1" cad. plated for ground strap)	1
181666	BOLT, (7/16" - 20 x 1" for ground strap)	1
180194	BOLT, (1/2" - 13 x 4-1/2")	4
181698	BOLT, (1/2" - 20 x 1-1/4")	4
271724	BOLT, (5/8" - 11 x 2-1/4")	8
271744	BOLT, (cad. plated) (5/8" - 18 x 1-1/2")	4
23836	BOLT, (3/4" - 16 x 4-1/2")	2
192406	BOLT, (hex. head) (3/8" - 16 x 5-1/4")	1
5T-83	CLIP (1/2" dia.) (dip stick tube)	1
5T-89	CLIP (2-1/4" dia.) oil filler tube	2
GBK-10250	CRADLE REWORK ASSEMBLY, engine	1
GBK-10280	COVER, muffler (cradle) L. H.	1
GBK-10281	COVER, muffler (cradle) R. H.	1
120380	LOCKWASHER, (1/4")	1
120382	LOCKWASHER, (3/8")	4
120383	LOCKWASHER, (7/16" for ground strap)	2
178576	LOCKWASHER (7/16" internal & external tooth for ground strap)	2
120384	LOCKWASHER, (1/2")	8
121574	LOCKWASHER, (5/8")	12
120367	NUT (1/4" - 28)	1
120369	NUT (3/8" - 24)	2
271506	NUT, hex (7/16" - 20 for ground strap)	1
120371	NUT, (cad. plated) (1/2" - 20)	4
121358	NUT, (cad. plated) (5/8" - 18)	4
24T-29	NUT, stop (3/4" - 16) elastic	2
124944	NUT, jam (5/8" - 18)	1
24T-33	NUT, stop (3/4" - 16)	2
GBK-10277	PLATE, bottom radiator hose guard	1
1T-246	RIVET (1/4" x 5/8")	19
1T-219	RIVET, universal head (3/16" - .171 - .203 grip x 5/16")	4
456289	SCREW, self tap (1/4" - 20 x 1/2" Type D)	14

ENGINE		Per
<u>Part Number</u>	<u>Part Name</u>	<u>Vehicle</u>
<u>Engine Mounting (continued)</u>		
2T-414	SCREW, hex head cap (1"-14)	2
GBK-9669	SPACER, oil filler and dip stick tube clamps	1
GBK-12008	STRAP, ground (engine to cradle)	1
GBK-11310	SUPPORT ASSEMBLY, engine front	1
GBK-10300	SUPPORT, engine rear	2
GBK-10402	UNDERPAN, engine R. H.	1
GBK-10403	UNDERPAN, engine L. H.	1
60T-173	WASHER, plain (25/32")	2
120388	WASHER, plain (7/16" cad. plated for ground strap)	1
<u>Accessory Drive</u>		
GBK-10150	BELTS, fan drive (sold in matched set)	3
GBK-10200	BELTS, freon compressor drive (sold in matched set)	4
<u>Oil Lines</u>		
5T-83	CLAMP, oil line hose	3
GBK-10620	HOSE ASSEMBLY, engine block to oil gauge manifold	1
GBK-10606	HOSE ASSEMBLY, tee at block to oil cooled generator	1
<u>Accelerator and Rods</u>		
181004	BOLT, hex head (5/16" - 24 x 1-1/8")	1
GBK-10650	BRACKET ASSEMBLY, accelerator	1
GBK-10658	. BRACKET and BUSHING ASSEMBLY	1
GBK-10655	. . BEARING, sleeve	2
271285	. FITTING, lubrication (Type "CC")	2
GBK-10657	. LEVER, cross shaft (1/4" rod hole)	1
GBK-10656	. LEVER, cross shaft (3/8" rod hole)	1
GBK-10651	. SHAFT, cross	1
GBK-10671	CABLE ASSEMBLY, accelerator (bulkhead to engine)	1
181637	. BOLT, hex head (3/8" - 24 x 1" cad. plated)	2
GBK-10670	. BRACKET, accelerator cable	1
GBK-10669	. CABLE, accelerator	1
144243	. CLEVIS, (3/8" - 24 x 2-1/2")	1
120382	. LOCKWASHER (3/8" med. cad. plated)	2
124925	. NUT, jam (3/8" - 24)	1
120369	. NUT, hex (3/8" - 24 cad. plated)	2
138078	. PIN, clevis (3/8")	1
137159	. PIN, cotter (3/32" x 5/8")	1
455862	PIN, spring (1/8" x 7/8" plain )	2



ENGINE		Per
<u>Part Number</u>	<u>Part Name</u>	<u>Vehicle</u>
<u>Throttle Control</u>		
120214	LOCKWASHER (5/16")	1
114783	PIN, clevis (1/4")	1
112726	PIN, cotter (1/16" x 1/2")	1
GBK-10660	ROD ASSEMBLY, safety throttle	1
GBK-10664	. BALL JOINT	1
GBK-10668	. CAP, 3/8" Pipe (drilled 1/4")	1
192071	. NIPPLE, pipe (3/8" x 3")	1
120367	. NUT, hex (1/4" -28)	1
120368	. NUT, hex (5/16" - 24)	1
GBK-10661	. ROD and CAP ASSEMBLY	1
GBK-10666	. ROD and WASHER ASSEMBLY	1
GBK-10665	. SPRING, coil	1
104036	. YOKE, (1/4")	1
<u>Engine Stabilizer</u>		
GBK-9602	*RADIATOR LATCH and ENGINE STABILIZER	1
180126	CAPSCREW, (3/8" - 16 x 1-1/2")	4
137214	COTTER, (1/8" x 1-3/4")	2
GBK-10264	END ASSEMBLY, engine stabilizer	2
GBK-55100	KIT, engine stabilizer - anchor plate	1
GBK-10115	. DOWEL	2
GBK-10267	. GASKET	1
131099	. LOCKWASHER, (3/8")	6
120369	. NUT, 3/8" - 24	2
GBK-10266-A	. PLATE, anchor	1
76T-198	. STUD	2
120394	. WASHER, plain (13/32" I. D. )	2
GBK-10265	TUBE, engine stabilizer	1

\* - Duplicate listing for purpose of clarity.

## FUEL

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Fuel Lines</u>		
214003	BOLT, hex head (1/4" - 20 x 1")	2
GBK-11341	BRACKET, fuel lines	2
119928	BUSHING, reducer (3/8 P x 1/4 P) (fuel return to bulkhead)	1
5T-83	CLAMP, fuel line hose	4
5T-84	CLAMP, fuel suction line hose	4
57T-2	CONNECTOR, (1/8" N. P. T. - 1/4" tube inverted male)	1
63T-59	CONNECTOR, bulkhead 3/8"	1
A50-2631	CONNECTOR, bulkhead 1/4"	1
57T-39	CONNECTOR, male (1/4 " P. T. x 1/2" T)	1
GBK-10610	HOSE ASSEMBLY, tee at right block to bulkhead connector	1
GBK-10611	HOSE ASSEMBLY, primary filter to bulkhead connector	1
GBK-10612	HOSE ASSEMBLY, bulkhead connector to tube on firewall	1
GBK-10613	HOSE ASSEMBLY, bulkhead connector to full pump	1
120380	LOCKWASHER (1/4")	2
65T-8	NIPPLE, close (1/4" brass)	1
120375	NUT, hex (1/4" - 20)	2
58T-40	NUT, inverted flared tube (1/2")	1
64T-86	TEE, street (1/4" brass)	3
<u>Fuel Filter</u>		
181637	BOLT, 3/8 - 24 x 1" cad. plated)	2
GBK-9951	BRACKET, fuel filter	1
<u>Blower Air Inlet - Air Shut-Off</u>		
111292	BOLT, hex head (3/8" - 16 x 4-1/4")	2
189308	BOLT, (3/8" - 16 x 6" long)	2
2T-422	BOLT, (3/8" - 16 x 8-1/2" long)	2
GBK-11267	CATCH, air horn flap	1
GBK-11273	CLAMP, air intake elbow	2
GBK-11272	ELBOW, air intake rubber	1
GBK-11263	FLAP ASSEMBLY, air horn	1
GBK-11265	GASKET, air horn flap	1
GBK-11271	HANDLE, air horn	1
GBK-11261	HORN, engine air	1
120380	LOCKWASHER, 1/4"	4
120382	LOCKWASHER, air horn mounting (3/8" cad. plated)	6
120367	NUT, 1/4" - 28	1
GBK-11270	O" RING, air horn	2
455973	PIN, spring (1/8 x 1-3/4")	1
9411579	PIN, spring (air horn) (1/8 x 7/8)	1
143933	PLUG, pipe 1/4"	2
GBK-11268	PLUNGER, air horn	1

# FUEL

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Blower Air Inlet - Air Shut-Off (continued)</u>		
15U-1027	SCREW, round head w/lockwasher (#8 - 32 x 1/2")	4
9415796	SCREW, machine (1/4 - 20 x 5/8")	4
GBK-11266	SHAFT, air horn	1
GBK-11245	SPACER (3/4" O. D. x .437 I. D. x 2-3/8" long)	1
GBK-11269	SPRING, air horn	1
120394	WASHER, air horn mounting (3/8" cad. plated)	6
120396	WASHER, plain (17/32")	2
<u>Fuel Injector</u>		
GBK-11308	CYLINDER, engine stop and fast idle safety air	1
<u>Exhaust</u>		
GBK-10458	ANGLE (muffler & exhaust pipe clamp)	4
180122	BOLT (3/8" - 16 x 1")	2
GBK-10453	HANGER ASSEMBLY	2
GBK-10451	MUFFLER ASSEMBLY	2
126009	NUT (3/8" - 16)	2
71501	NUT, (7/16"-14)	8
GBK-10502	PIPE, exhaust LH	1
GBK-10501	PIPE, exhaust RH	1
R3-1458	SPRING	8
120396	WASHER (17/32")	16
<u>Air Cleaner</u>		
GBK-10813	GASKET, air cleaner outlet	1
GBK-10810	OUTLET, air cleaner	1
GBK-10806	RISER, air cleaner manifold	1

# STEERING

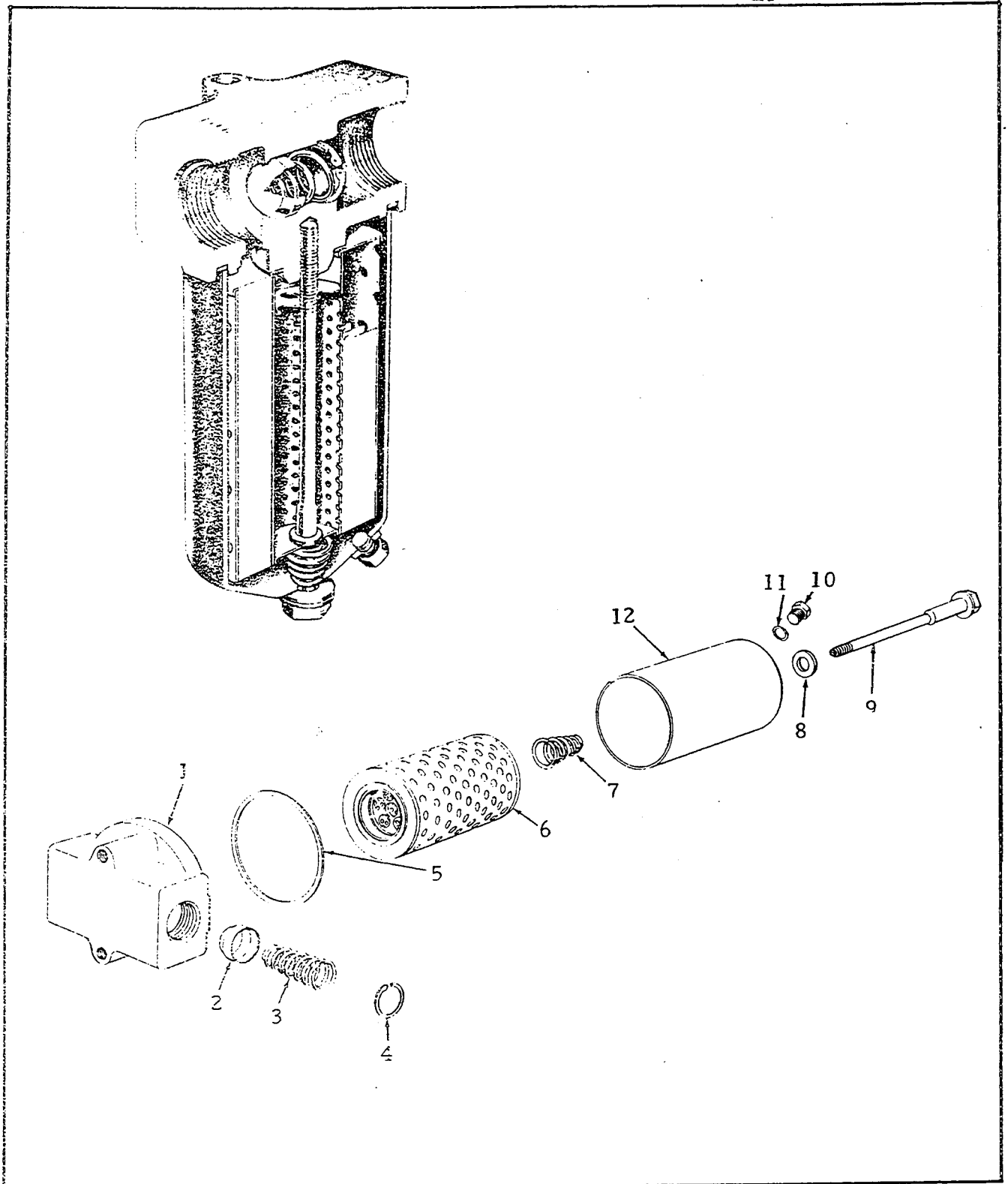


Figure 11

## STEERING

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Power Steering Hydraulic Fluid Pump</u>		
GBK-11403	BELT	2
181639	BOLT (3/8" - 24 x 1-1/4")	2
181707	BOLT (1/2" - 20 x 2-1/4")	4
180122	BOLT, hex head (3/8" - 16 x 1") (pump cover plate)	2
189334	BOLT, hex head (3/8" - 24 x 4-1/2") (pump cover plate)	4
GBK-11325	BRACKET ASSEMBLY, power steering filter	1
144061	BUSHING, reducer (1" x 1/2" brass)	2
GBK-11334	FILTER, power steering	1
1133405	. BASE (power steering filter) (1-Fig. 11)	1
1133401	. BODY, sub assembly (12-Fig. 11)	1
1133408	. BOLT, (9-Fig. 11)	1
GBK-11333	. CARTRIDGE (6-Fig. 11)	1
1133409	. KIT, gasket (service)	1
1133402	. . GASKET, (NSS) (11-Fig. 11)	1
1133407	. . GASKET, (NSS) (8-Fig. 11)	1
1133404	. . RING, seal (NSS) (5-Fig. 11)	1
1133403	. PLUG, (10-Fig. 11)	1
1133410	. POPPET (2-Fig. 11)	1
1133412	. RING, snap (4-Fig. 11)	1
1133406	. SPRING (7-Fig. 11)	1
1133411	. SPRING (3-Fig. 11)	1
GBK-10607	HOSE ASSEMBLY, power steering pump (64-1/2")	1
GBK-10602	HOSE ASSEMBLY, power steering pump to Zenith filter	1
GBK-10603	HOSE ASSEMBLY, filter to pump power steering return line	1
GBK-10608	HOSE ASSEMBLY, filter to bulkhead	1
GBK-10609	HOSE ASSEMBLY, filter to power steering pump (45-1/2")	1
GBK-11405	KEY (1/4" x 1/4" x 1-1/2")	1
120384	LOCKWASHER (1/2")	4
131046	LOCKWASHER (3/4")	2
120382	LOCKWASHER (3/8") (pump cover plate)	6
24T-32	NUT, elastic stop (1/2" - 20)	1
120371	NUT, hex (1/2" - 20)	4
426099	NUT, hex (3/4" - 16)	2
454565	PIN, roll (1/4" x 1-1/4")	1
GBK-11406	PIN, roll (3/16" x 2")	1
GBK-11404	PLATE, mounting	1
GBK-11402	PULLEY (4" dia.)	1
GBK-11401	PULLEY (9-1/16" dia.)	1
GBK-11300	PUMP, power steering	1
1130022	. BEARING	1
1130030	. BEARING, outer (N. D. - W. C. 87504)	1
1130039	. BODY	1
1130038	. COVER	1
1130009	. DIP STICK and PLUG, sub-assembly	1

## STEERING

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Power Steering Hydraulic Fluid Pump (continued)</u>		
1130019	. . BAFFLE	1
1130013	. . GASKET	1
1130017	. . GASKET, body	2
1130018	. . GASKET, cover	1
1130014	. . GASKET, tank cover	1
1130012	. . GUIDE, cover bolt	1
1130010	. . NUT, self locking wing (1/4" - 20)	1
1130015	. . SCREW, (1/4" - 20 x 3/4")	1
1130016	. . SPACER, gasket	2
1130011	. . WASHER	1
1130025	. GASKET, "O" ring	1
1130021	. KEY, 1/8" x 1/2" Woodruff	1
1130040	. KIT, vane	1
1130029	. "O" RING	2
1130035	. PIN, (3/16" x 1-3/8")	2
1130034	. PLATE, pressure	1
1130032	. PLUG, spring retainer	1
1130005	. PLATE and SCREW, sub-assembly	1
1130031	. RING, snap	1
1130028	. RING, snap (Waldes)	1
1130024	. RING, 4 G. P. M.	1
1130023	. ROTOR	1
1130027	. SCREW (3/8" - 16 x 3-1/4" hex head)	1
1130026	. SCREW (3/8" - 16 x 2-1/4" hex head)	1
1130036	. SEAL, shaft	1
1130037	. SHAFT	1
1130033	. SPRING, control valve	1
1130006	. TANK COVER and TUBE SUB-ASSEMBLY	1
1130001	. TANK, sub-assembly	1
1130020	. VALVE, control sub-assembly	1
139325	SCREW, hex socket set (1/4" - 20 x 3/8 cone point)	1
76T-197	STUD (3/4" - 10 x 3/4" - 16)	2
GBK-11407	SUPPORT, pump (power steering)	1
131017	WASHER, plain (13/16" I. D.)	2
120396	WASHER, plain (17/32" I. D.)	5

# TRANSMISSION

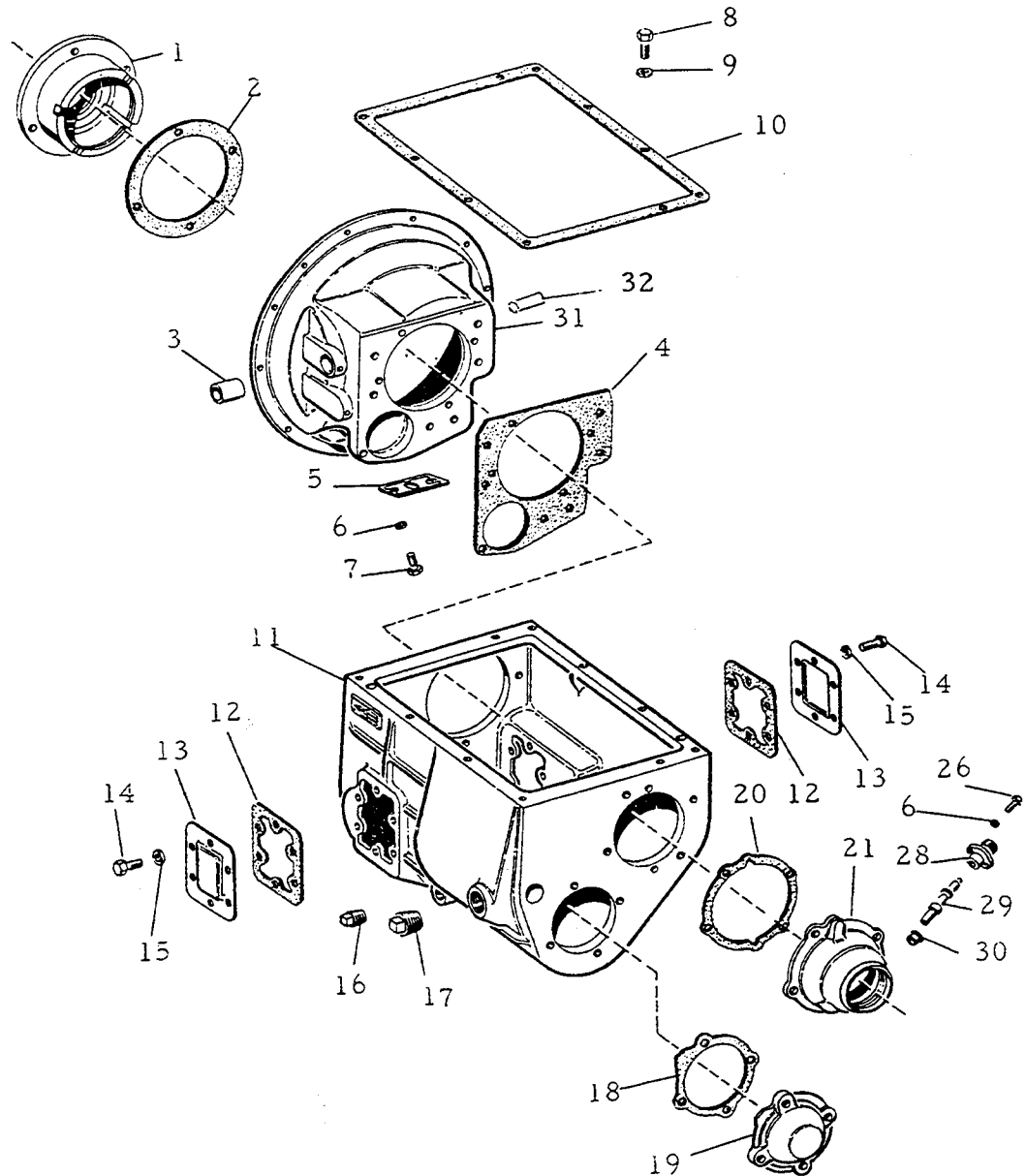


Figure 12

## TRANSMISSION

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Transmission Assembly</u>		
180021	BOLT, hex head (cad. plated) (1/4" - 20 x 7/8")	4
180124	BOLT, hex head (cad. plated) (3/8" - 16 x 1-1/4")	1
180148	BOLT, (7/16" - 14 x 1-3/8" hex head)	24
120383	LOCKWASHER, (7/16")	24
120380	LOCKWASHER, (cad. plated) (1/4" medium)	4
120382	LOCKWASHER, (cad. plated) (3/8" medium)	1
GBK-9100	TRANSMISSION	1
910074	. BALL, mainshaft 3rd gear sleeve lock (11-Fig. 13)	1
910107	. BEARINGS, mainshaft 1st, 2nd and 3rd gear needle (12-Fig. 13)	426
910029	. BEARING, countershaft rear (41-Fig. 13)	1
910031	. BEARING, countershaft front (34-Fig. 13)	1
910050	. BEARING, drive gear (2-Fig. 13)	1
910049	. BEARING, drive gear pocket (5-Fig. 13)	1
910007	. BEARING, mainshaft rear (24-Fig. 13)	1
910010	. BEARING, reverse idler gear (47-Fig. 13)	2
910028	. CAP and SPEEDOMETER, BUSHING ASSEMBLY, mainshaft rear bearing (21-Fig. 12)	1
910051	. CAP, countershaft rear bearing (19-Fig. 12)	1
910099	. . BUSHING, speedometer (30-Fig. 12)	1
910008	. CAP, mainshaft front bearing (1-Fig. 12)	1
910027	. CASE and PLUG ASSEMBLY, transmission (11-Fig. 12)	1
910061	. . PLUG, drain (16-Fig. 12)	1
910060	. . PLUG, filler (17-Fig. 12)	1
910097	. COLLAR, mainshaft 3rd and 4th clutch (6-Fig. 13)	1
910128	. COTTER, mainshaft nut (19-Fig. 13)	1
910037	. COUNTERSHAFT ASSEMBLY (39-Fig. 13)	1
910079	. COVER, clutch shifter shaft	1
910076	. COVER, clutch housing hand hole (5-Fig. 12)	1
910085	. COVER, transmission case aperture (13-Fig. 12)	2
910034	. FLANGE ASSEMBLY, companion (27-Fig. 13)	1
910012	. . FLANGE, companion	1
910136	. . OIL SLINGER	1
910110	. GASKET, clutch housing (4-Fig. 12)	1
910077	. GASKET, clutch shifter shaft cover	1
910084	. GASKET, countershaft rear bearing cap (18-Fig. 12)	1
910083	. GASKET, mainshaft rear bearing cap (20-Fig. 12)	1
910082	. GASKET, mainshaft front bearing cap (2-Fig. 12)	1
910086	. GASKET, transmission case aperture cover (12-Fig. 12)	2
910001	. GEAR, countershaft drive (41T) (36-Fig. 13)	1
910013	. GEAR, countershaft 2nd (26T) (38-Fig. 13)	1
910014	. GEAR, countershaft 3rd (34T) (37-Fig. 13)	1
910011	. GEAR, drive (31T) (3-Fig. 13)	1
910003	. GEAR, mainshaft 1st (44T) (22-Fig. 13)	1
910005	. GEAR, mainshaft 2nd (45T) (16-Fig. 13)	1



# TRANSMISSION

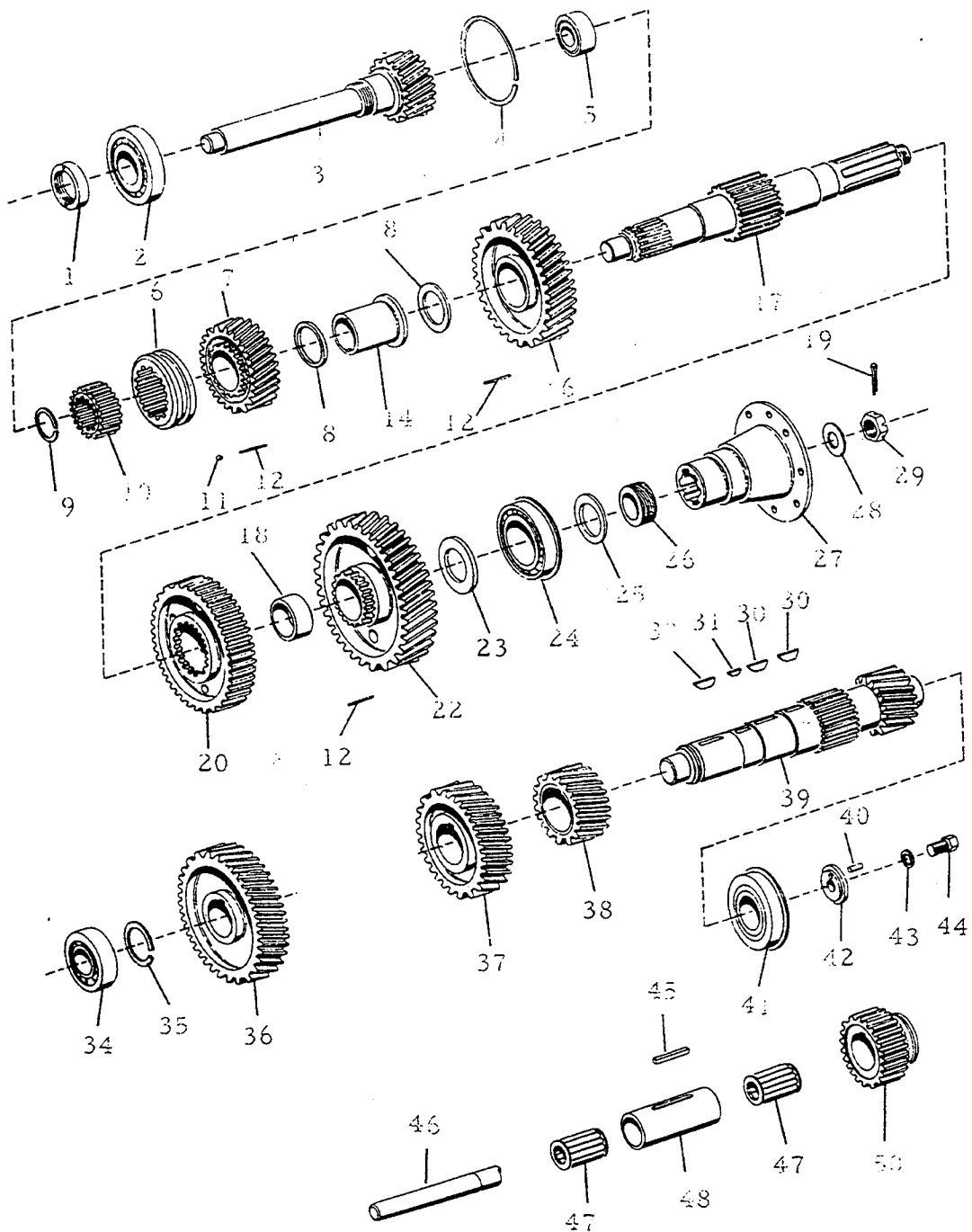


Figure 13

## TRANSMISSION

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Transmission Assembly (continued)</u>		
910006	. GEAR, mainshaft 3rd (37T) (7-Fig. 13)	1
910098	. GEAR, mainshaft 3rd and 4th clutch (10-Fig. 13)	1
910004	. GEAR, mainshaft reverse (45T) (20-Fig. 13)	1
910002	. GEAR, reverse idler (27T) (50-Fig. 13)	1
910015	. GEAR, speedometer drive (26-Fig. 13)	1
910016	. GEAR, speedometer driven (29-Fig. 12)	1
910030	. HOUSING and BUSHING ASSEMBLY, clutch (31-Fig. 12)	1
910108	. . BUSHING, clutch shifter shaft (3-Fig. 12)	2
910109	. . NIPPLE, clutch release bearing oil tube (32-Fig. 12)	1
910035	. HOUSING ASSEMBLY, transmission shifter	1
910088	. . BRACKET, 1st and 2nd shift	1
910087	. . BRACKET, reverse shift	1
910040	. . BREATHER ASSEMBLY	1
910054	. . BUSHING, shift finger shaft (short)	1
910053	. . BUSHING, shift finger shaft (medium)	2
910052	. . BUSHING, shift finger shaft (long)	2
910042	. . FINGER, reverse shift	1
910041	. . FINGER, remote control shift	2
910067	. . FORK, 1st and 2nd shift	1
910064	. . FORK, 3rd and 4th shift	1
910068	. . FORK, reverse shift	1
910078	. . GASKET, transmission shifter housing (10-Fig. 12)	1
910048	. . INTERLOCK, (short)	1
910047	. . INTERLOCK, (long)	1
910096	. . OIL SEAL, transmission control rod	3
910095	. . PLUNGER, shift rod poppet	3
910070	. . ROD, 1st and 2nd shift	1
910069	. . ROD, 3rd and 4th shift	1
910071	. . ROD, reverse shift	1
910075	. . ROD POPPET, shift	3
910113	. . SCREW, shift finger	2
910127	. . SCREW, shift fork and shift bracket	5
910081	. . SLEEVE, 1st, 2nd and reverse shift rod	1
910080	. . SLEEVE, 3rd and 4th shift rod	1
910093	. . SNAP RING, shift finger shaft	1
910073	. . SPRING, shift finger	1
910072	. . SPRING, shift rod poppet	3
910036	. INSERT and BUSHING ASSEMBLY, transmission shifter housing	1
910054	. . BUSHING, shift finger shaft (short)	1
910053	. . BUSHING, shift finger shaft (medium)	2
910052	. . BUSHING, shift finger shaft (long)	2
910023	. KEY, clutch shifter yoke	2
910045	. KEY, countershaft gear (30-Fig. 13)	3
910044	. KEY, P. T. O. gear (31-Fig. 13)	1

# TRANSMISSION

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Transmission Assembly (continued)</u>		
910043	. KEY, reverse idler gear (45-Fig. 13)	1
910132	. LOCKNUT, drive gear bearing (1-Fig. 13)	1
910115	. LOCKSCREW, countershaft (44-Fig. 13)	1
910025	. LOCKWASHER, clutch shifter yoke screw	2
910104	. LOCKWASHER, countershaft rear bearing cap stud	4
910103	. LOCKWASHER, countershaft lock screw (43-Fig. 13)	1
910020	. LOCKWASHER, clutch housing hand hole and speedometer cover screw (6-Fig. 12)	4
910106	. LOCKWASHER, shifter housing and case aperture cover screw (15-Fig. 12)	23
910104	. LOCKWASHER, mainshaft rear bearing cap stud	4
910105	. LOCKWASHER, mainshaft front bearing cap stud	4
910089	. MAINSHAFT, transmission (17-Fig. 13)	1
910133	. NUT, shift finger stud	1
910131	. NUT, mainshaft (29-Fig. 13)	1
910129	. NUT, countershaft and mainshaft bearing cap stud	8
910130	. NUT, clutch housing stud	7
910111	. PIN, shift finger	1
910135	. PIN, countershaft lock screw retainer washer (40-Fig. 13)	1
910134	. PIN, interlock	1
910126	. PLUG, interlock hole	1
910062	. PLUG, shift rod hole	3
910091	. RING, countershaft drive gear snap (35-Fig. 13)	1
910090	. RING, drive gear bearing snap (4-Fig. 13)	1
910092	. RING, mainshaft 3rd and 4th clutch gear snap (9-Fig. 13)	1
910112	. SCREW, clutch shifter shaft cover	2
910024	. SCREW, clutch shifter yoke	2
910019	. SCREW, clutch housing hand hole cover (7-Fig. 12)	2
910019	. SCREW, speedometer outlet cover (26-Fig. 12)	2
910118	. SCREW, transmission shifter housing (long) (8-Fig. 12)	1
910117	. SCREW, transmission shifter housing (medium) (8-Fig. 12)	2
910116	. SCREW, transmission shifter housing (short) (8-Fig. 12)	7
910114	. SCREW, transmission case aperture cover (14-Fig. 12)	12
910038	. SEAL, mainshaft front	1
910039	. SEAL, mainshaft rear	1
910021	. SHAFT, clutch release	1
910032	. SHAFT and LEVER ASSEMBLY, 3rd and 4th shift finger	1
910046	. . KEY, shift finger	1
910066	. . LEVER, shift	1
910033	. SHAFT and LEVER ASSEMBLY, 1st, 2nd and reverse shift finger	1
910046	. . KEY, shift finger	1
910066	. . LEVER, shift	1
910063	. SHAFT, reverse idler gear (46-Fig. 13)	1

## TRANSMISSION

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Transmission Assembly (continued)</u>		
910055	. SLEEVE, mainshaft 3rd gear (14-Fig. 13)	1
910094	. SLEEVE, reverse idler gear (48-Fig. 13)	1
910017	. SLEEVE, speedometer (28-Fig. 12)	1
910058	. SPACER, countershaft gear	1
910057	. SPACER, mainshaft 2nd and 3rd gear needle bearing (8-Fig. 13)	2
910056	. SPACER, mainshaft 1st gear needle bearing (18-Fig. 13)	1
910059	. SPACER, speedometer gear (25-Fig. 13)	1
910121	. STUD, clutch housing	7
910122	. STUD, countershaft rear bearing cap	4
910119	. STUD, mainshaft front bearing cap	4
910124	. STUD, mainshaft rear bearing cap (long)	1
910123	. STUD, mainshaft rear bearing cap (short)	3
910120	. STUD, reverse shift finger	1
910065	. WASHER, clutch housing stud	7
910100	. WASHER, countershaft lockscrew retainer (42-Fig. 13)	1
910102	. WASHER, mainshaft nut (28-Fig. 13)	1
910101	. WASHER, mainshaft 1st speed gear thrust (23-Fig. 13)	1
910125	. WASHER, shift finger shaft thrust	2
910022	. YOKE, clutch shifter	1
910026	. ZERK, clutch housing	2

Transmission Gear Shift Lever and Control

J5-1167	BALL, gear shift lever	1
181637	BOLT, (3/8" - 24 x 1")	4
GBK-9155	BRACKET ASSEMBLY, reverse gear shift motion	1
GBK-9156	. BRACKET, reverse motion	1
GBK-9158	. BUSHING, flanged	2
GBK-9157	. LEVER, reverse motion	2
GBK-9160	. PIN, roll (1/8" O.D. x 1-1/4" long)	1
GBK-9161	. SHAFT, (3/4" O.D. x 3-1/2" long)	1
GBK-9164	EXTENSION, gear shift lever	1
109350	FITTING, lubrication	1
120382	LOCKWASHER (3/8")	4
120369	NUT (3/8" - 16)	4
124934	NUT (1/2" - 20)	2
138080	PIN, clevis (1/2" x 1-27/64" cad. plated)	4
456173	PIN, cotter (1/8" x 7/8" cad. plated)	4
454565	PIN, spring (1/4" x 1-1/4")	2
GBK-9194	*SHAFT, transmission and clutch bellcrank upper	1
GBK-9195	SHAFT, transmission bellcrank lower (long)	1
GBK-9168	TUBING	1

\* - Duplicate listing for purpose of clarity.

# PROPELLER SHAFT

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Propeller Shaft Assembly</u>		
GBK-9350	SHAFT ASSEMBLY, propeller	1
935015	. BOLT, flange	24
935012	. CAP, dust (6-Fig. 14)	1
935004	. KIT, journal and bearing (2-Fig. 14)	2
935006	. . BEARING ASSEMBLY	4
935008	. . CAPSCREW, bearing	8
935011	. . GASKET, journal	4
935005	. . JOURNAL CROSS ASSEMBLY	1
935009	. . NIPPLE, zerk	1
935010	. . RETAINER, journal gasket	4
935007	. . STRAP, lock	4
935016	. LOCKWASHER	24
935017	. NUT	24
935001	. SHAFT SUB-ASSEMBLY (7-Fig. 14)	1
935003	. SLEEVE YOKE ASSEMBLY (3-Fig. 14)	1
935014	. WASHER, cork (4-Fig. 14)	1
935013	. WASHER, steel (5-Fig. 14)	1
935002	. YOKE FLANGE (1-Fig. 14)	2

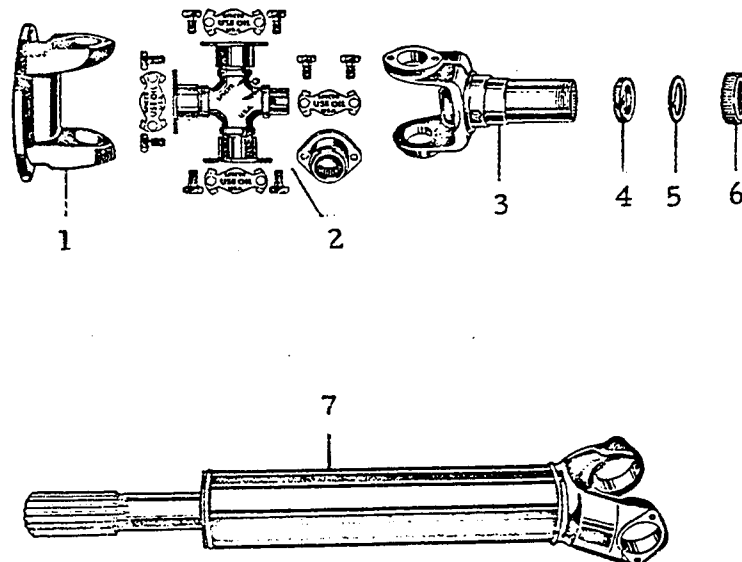


Figure 14

BODY		
<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Miscellaneous</u>		
GBK-10701	ANGLE, top reinforcement	1
GBK-10702	ANGLE, front reinforcement	1
GBK-10703	ANGLE, side reinforcement	1
GBK-10778	ANGLE, trim (LH side)	1
GBK-10776	ANGLE, trim (between block, head and radiator)	1
GBK-10766	ANGLE, trim, rear cover LH	1
GBK-10761	ANGLE, trim - cover RH rear	1
GBK-10760	ANGLE, trim - electric box	1
181639	BOLT (3/8" - 24 x 1-1/4")	16
180132	BOLT (3/8" - 16 x 2-1/4")	8
120369	BOLT, hex head (3/8" - 24 cad. plated)	12
120647	BOLT, hex head - cad. plated (3/8" - 24 x 1)	4
214113	BOLT, hex head - cad. plated (3/8" - 24 x 2-3/4")	4
180083	BOLT, hex head - floor (5/16" - 18 x 1-1/2" cad. plated)	14
181617	BOLT, hex head - floor (5/16" - 1 - 5/8" cad. plated)	14
181610	BOLT, hex head (5/16" - 24 x 1-1/4" cad. plated)	22
180081	BOLT, hex head (5/16" - 18 x 1-1/4" cad. plated)	2
181635	BOLT, hex head (3/8" - 24 x 3/4" cad. plated)	1
GBK-11063	BRACE and SPACER ASSEMBLY, RH	1
GBK-11064	BRACE and SPACER ASSEMBLY, LH	1
GBK-9654	BRACKET, radiator hose support (upper)	1
162912	. SCREW, RH self tapping (#10 - 16 x 7/8")	4
GBK-11096	BRACKET, stop and tail light mounting	2
GBK-11110	BRACKET, rear door stop LH	1
GBK-11111	BRACKET, rear door stop RH	1
GBK-11094	CLAMP, corner panel	4
16U-1857-2	CLIP, door prop	1
103361	COTTER, (1/16" x 1/2")	2
GBK-10774	COVER, aisleway - bottom	1
GBK-10759	COVER, bottom and L.H. side of aisleway	1
GBK-10758	COVER, rear of aisleway	1
GBK-10765	COVER, floor support bracket	1
GBK-10762	COVER, rear RH	1
GBK-10775	COVER, strip (for ceiling panels)	1
GBK-10820	COVER ASSEMBLY, box air cleaner	1
GBK-11201	DOOR, transmission (access)	1
GBK-11001-S	DOOR ASSEMBLY, engine compartment rear	1
GBK-11105	. BAR ASSEMBLY, latch LH engine compartment door	1
GBK-11102	. BAR ASSEMBLY, latch RH engine compartment door	1
GBK-11001	. DOOR ASSEMBLY, engine compartment rear (less latch bars)	1
GBK-11026	. . BRACE, panel	2
GBK-11017	. . DOOR, access	1
GBK-11050	. . FRAME, engine compartment door	1
GBK-10899	. . HANDLE, rear compartment door (recessed folding)	1

# BODY

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Miscellaneous (continued)</u>		
GBK-11019	. . HINGE, access door	1
131183	. . LOCKWASHER (#10)	8
120614	. . NUT (10-32)	8
GBK-11002	. . PANEL (28-3/8" x 62" louvered)	1
GBK-11006	. . PANEL (9-9/16" x 44-13/16")	1
41T-216	. . RIVET, (3/16" x 7/32")	59
41T-218	. . RIVET, (3/16" x 9/32")	15
41T-219	. . RIVET, (3/16" x 5/16")	21
41T-220	. . RIVET, (3/16" x 11/32")	17
9401482	. . RIVET, (3/16" x 3/8")	2
132912	. . SCREW, (10 - 32 x 5/8" chrome)	8
GBK-10893	. . SPRING, access door	1
GBK-11003	. . STRIP, lower trim	1
GBK-11014	. . STRIP, lower center trim	1
GBK-11015	. . STRIP, end lower trim LH	1
GBK-11013	. . STRIP, end lower trim RH	1
GBK-11005	. . STRIP, upper trim rear door closure (14 Ga. alum. 3-3/4" x 9/16")	1
GBK-11006	. . STRIP, upper trim rear door closure (14 Ga. alum. 9-9/16" x 44-13/16")	1
GBK-11010	. . STRIP, upper trim (eng. compt.) (3-14 x 41-3/16")	1
GBK-11011	. . STRIP, upper trim (eng. compt.) (3-14 x 13-1/8")	1
GBK-10850	DOOR ASSEMBLY, engine radiator (complete)	1
GBK-10908	. . BASE, side seal	2
GBK-10909	. . BASE, top and bottom seal	2
181566	. . BOLT, hex head (1/4" - 28 x 3/4")	11
GBK-10892	. . DOOR, filler	1
GBK-10851	. . FRAME ASSEMBLY, engine radiator	1
GBK-10900	. . FRAME ASSEMBLY, Kysor shutter seal	1
GBK-10899	. . HANDLE, recessed folding	1
GBK-10891	. . HINGE, filler door (eng. rad. door)	1
GBK-10894	. . HINGE, main door	1
120217	. . LOCKWASHER, (#10 cad. plated)	8
120380	. . LOCKWASHER, (1/4" cad. plated)	47
GBK-10853	. . LOUVER ASSEMBLY	1
GBK-10898	. . LOUVER and BRACKET ASSEMBLY	12
120614	. . NUT, hex (#10-32 cad. plated)	8
120367	. . NUT, hex (1/4" - 28 cad. plated)	46
GBK-10885	. . PANEL, bottom	1
GBK-10883	. . PANEL, center forward	1
GBK-10880	. . PANEL, forward top	1
GBK-10884	. . PANEL, rear center	1
GBK-10881	. . PANEL, top rear	1
112726	. . PIN, cotter (1/16" x 1/2" cad. plated)	2

BODY		Per
<u>Part Number</u>	<u>Part Name</u>	<u>Vehicle</u>
<u>Miscellaneous (continued)</u>		
41T-216	. RIVET, southco (38-106-03-13)	134
41T-217	. RIVET, southco (38-106-04-13)	62
41T-218	. RIVET, southco (38-106-05-13)	18
41T-219	. RIVET, southco (38-106-06-13)	17
41T-221	. RIVET, southco (38-106-08-13)	21
41T-230	. RIVET, southco (38-106-17-13)	6
41T-237	. RIVET, southco (38-106-28-13)	6
9401482	. RIVET, universal head (3/16" x 3/8" alum.)	48
GBK-10854	. ROD ASSEMBLY, lower lock	1
GBK-10857	. ROD ASSEMBLY, upper lock	1
132901	. SCREW, mach. RH (#10-32 x 3/8" chrome)	7
132931	. SCREW, mach. RH (#10-32 x 1/2" chrome)	1
187865	. SCREW, mach. RH (1/4" - 28 x 1/2" cad. plated)	34
216302	. SCREW, mach. fillister head (1/4" - 28 x 5/8" cad. plated)	1
GBK-10905	. SEAL, side rubber	2
GBK-10906	. SEAL, top and bottom rubber	2
GBK-10893	. SPRING, filler door retaining (eng. rad. door)	1
GBK-10867	. STRIP, filler door trim	1
GBK-10866	. STRIP, forward trim	1
GBK-10863	. STRIP, lower door panel filler	3
GBK-10868	. STRIP, rear trim	1
GBK-10889	. SUPPORT, center (LOUVER assembly)	1
60T-175	. WASHER, plain (1" O. D. x 7/32" I. D. x 1/8")	1
147579	. WASHER, plain (1/4" I. D. x 7/16" O. D. x 1/16")	2
GBK-10777	END, cover (rear supt. ceiling panel)	2
GBK-10267	GASKET, (steering cover plate)	1
GBK-11059	GUIDE ASSEMBLY, latch bar	2
GBK-11024	HINGE ASSEMBLY, engine compartment door	2
GBK-11022	. HINGE, casting (female half)	2
GBK-11021	. HINGE, casting (male half)	2
GBK-11023	. PIN, hinge (stainless steel - .625 O. D. x 3-5/8" long)	2
273937	. PIN, spring	2
GBK-10780	INSULATION, compartment roof	1
GBK-10757	INSULATION, rear compartment roof LH	1
GBK-10915	KEEPER ASSEMBLY, radiator door	1
24T-34	LOCKNUT, (#10-24)	2
120214	LOCKWASHER (5/16" cad. plated)	2
120382	LOCKWASHER (3/8" cad. plated)	41
120214	LOCKWASHER (5/16")	40
120380	LOCKWASHER (1/4")	11
120376	NUT, hex (5/16" - 18)	2
120367	NUT (1/4" - 28)	11
120368	NUT, hex (5/16" - 24)	36
120377	NUT, (3/8" - 16 cad. plated)	8



# BODY

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Miscellaneous (continued)</u>		
GBK-11076	PANEL ASSEMBLY, rear corner LH	1
GBK-11075	PANEL ASSEMBLY, rear corner RH	1
GBK-11221	PLATE, transmission bellcrank cover	1
GBK-10801	PLATE, cover (floor) (.067 x 4-3/8" x 19)	1
GBK-10802	PLATE, cover (floor) (.067 x 6-3/4" x 9-1/4)	1
GBK-11156	PROP ASSEMBLY, rear door	1
GBK-10705	RELIEF ASSEMBLY, bulkhead	1
41T-210	RIVET (3/16" x 3/8")	4
41T-296	RIVET	14
104136	RIVET (guide latch)	4
41T-216	RIVET, rear corner panels (3/16" x 7/32")	30
41T-218	RIVET, rear corner panels (3/16" x 9/32")	26
41T-219	RIVET, rear corner panels (3/16" x 5/16")	24
41T-220	RIVET, rear corner panels (3/16" x 11/32")	12
41T-222	RIVET, rear corner panels (3/16" x 13/32")	2
41T-229	RIVET, rear corner panels (1/4" x 15/32")	16
A37-24-381	RIVNUT (3/8" - 24 x 3/8" grip)	4
GBK-11222	RUBBER, cover transmission bellcrank	1
GBK-11225	RUBBER, cover clutch bellcrank	1
55118	SCREW, (#10 - 24 x 1/2" cad. plated)	2
561657	SCREW (#10 - 12 x 1" Type "A")	36
152430	SCREW, oval head cross recess wood (#10 x 3/4")	10
162874	SCREW, round head cross recess tapping (Type "B") (#8 - 18 x 1/2" cad.)	169
449949	SCREW, round head cross recess (Type "F" 1/4" - 20 x 3/4")	8
161651	SCREW, round head cross recess (Type "A" #10-12 x 3/4")	16
448116	SCREW, RH self tap (Type "F" #8-32 x 3/4") (For transmission bellcrank cover)	1
149006	SCREW, wood flat head - cross recess (#10 - 13 x 1-3/4")	19
162600	SCREW, tapping (#6 x 1/2")	4
448112	SCREW, RH self tap (type "F" #8-32 x 1/2") (For transmission bellcrank cover.)	19
GBK-10783	SPACER, electrical box (wood)	2
GBK-11058	SPACER, door latch (9/64" dia. drill)	2
GBK-11065	SPACER, door latch (5/32" dia. drill)	2
GBK-11202	SPACER, lower aisle pan	1
GBK-11087	STRAP, corner panel lower	2
GBK-11086	STRAP, corner panel upper	2
GBK-11226	STRIP, retainer (long) clutch bellcrank cover	1
GBK-11223	STRIP, retainer (long) transmission bellcrank cover	1
GBK-11224	STRIP, retainer (short) transmission bellcrank cover	2
GBK-11227	STRIP, retainer (short) clutch bellcrank cover	2
3K-11092	STRIP, trim RH	1
GBK-11093	STRIP, trim LH	1

# BODY

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Miscellaneous (continued)</u>		
GBK-11089	STRIP, trim.(corner panel)	2
GBK-11088	STRIP, trim (14 Ga. alum.) (9-9/16" x 16 - 5/16")	2
GBK-10767	SUPPORT, floor	2
GBK-10773	SUPPORT, ceiling panel LH side (front of air cleaner riser)	1
GBK-10772	SUPPORT, ceiling panel RH	1
GBK-10771	SUPPORT, ceiling panel LH side (rear of air cleaner riser)	1
GBK-10764	SUPPORT, Z-bar, rear LH	1
GBK-10763	SUPPORT, Z-bar, rear RH	1
120394	WASHER, plain (3/8" cad. plated)	1
120393	WASHER, flat (5/16")	14
GBK-10781	WEBBING, anti-squeak (1/8" x 1" x 36" long)	4
GBK-10782	WEBBING, anti-squeak (1/8" x 1" x 13" long)	4
GBK-10779	"Z" BAR, trim (rear LH side)	1

# AIR CONDITIONING

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Heater Pipes and Connections</u>		
GBK-11387	CLAMP, hose (1-1/16 - 2 stainless steel)	22
144131	ELBOW, brass (1")	1
16P-1221	ELBOW, rubber (1" I. D. x 1-3/8" O. D.)	1
GBK-11386	HOSE, heater line (1" I. D. - 3 ply x 3-1/2" long)	5
GBK-11385	HOSE, heater line (1" I. D. - 3 ply x 5" long)	5
GBK-11395	HOSE, heater (3 ply 1" I. D x 19" long)	1
219913	NIPPLE, brass (1" x 2-1/2" long)	1
GBK-11377	NIPPLE, hose heater line	4
192470	NIPPLE, (close galvanized 3/4")	1
143953	PLUG (square head galvanized 1")	1
162909	SCREW, RH cross recess (Type "B" #10 x 3/4")	6
144114	STREET ELL, brass (1")	2
GBK-11388	SUPPORT, heater tube LH side	1
GBK-11389	. ANGLE, heater tube support (L. H. side of engine)	1
131183	. LOCKWASHER, (#10 cad. plated)	2
120361	. NUT, hex (#10 - 24 cad. plated)	2
GBK-11392	. PLATE, strap support (heater lines RH & LH side of engine)	4
155133	. SCREW, (#10 - 24 x 1" cad. plated)	2
GBK-11391	. WEBBING, strap support (heater lines RH & LH side of engine)	2
.8245	TEE (3/4" x 3/4" x 1" galvanized)	1
GBK-11383	TUBE, heater line pump supply (1" O. D. x .058 wall x 39")	1
GBK-11382	TUBE, heater line return (1" O. D. x .058 wall x 51")	1
GBK-11381	TUBE, heater line return RH (1" O. D. x .058 wall x 69")	1
GBK-11380	TUBE, heater line return LH (1" O. D. x .058 wall x 52 - 3/4")	1
GBK-11379	TUBE, heater line supply RH (1" O. D. x .058 wall x 55 - 1/2")	1
GBK-11378	TUBE, heater line supply LH (1" O. D. x .058 wall x 80")	1

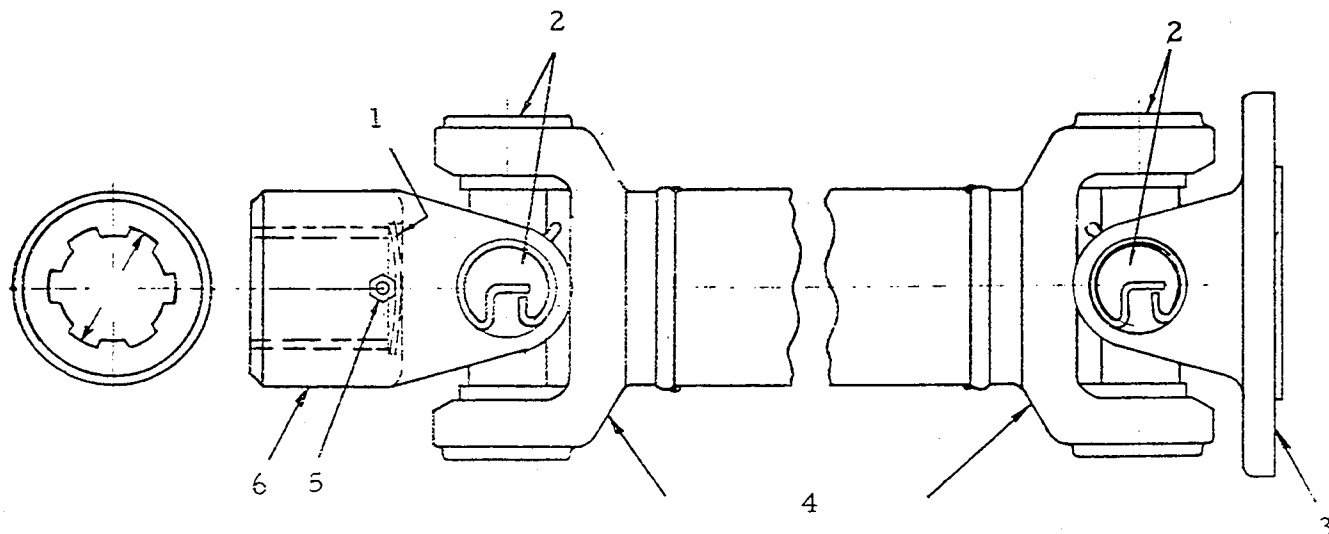


Figure 15

# AIR CONDITIONING

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Air Conditioning Compressor Drive and Shaft</u>		
GBK-10118	ADAPTER PLATE, comp. drive	1
181636	BOLT, hex head (3/8" - 24 x 7/8")	4
2T-420	BOLT, hex socket head lock (5/16" - 18 x 1-1/2")	4
120382	LOCKWASHER, 3/8" med.	4
GBK-10117	UNIVERSAL ASSEMBLY, comp. drive	1
1011704	. KIT, journal and bearing (2-Fig. 15)	2
1011706	. . BEARING ASSEMBLY	4
1011709	. . GASKET, journal	4
1011705	. . JOURNAL CROSS ASSEMBLY	1
935009	. . NIPPLE, zerk	1
1011707	. . RING, snap	4
1011703	. PLUG, sleeve yoke (1-Fig. 15)	1
1011710	. SHAFT SUB-ASSEMBLY (4-Fig. 15)	1
1011702	. YOKE ASSEMBLY, sleeve (6-Fig. 15)	1
1011701	. YOKE FLANGE, (for permanent joint) (3-Fig. 15)	1

## Compressor Drive Mounting and Idler Pulley

GBK-10017	BEARING, idler pulley ball (8-9-Fig. 16)	2
223826	BOLT, hex head (3/4" - 16 x 4-1/2")	2
2T-419	BOLT, idler adjusting	1
GBK-10050	BRACKET ASSEMBLY, pillow block support	1

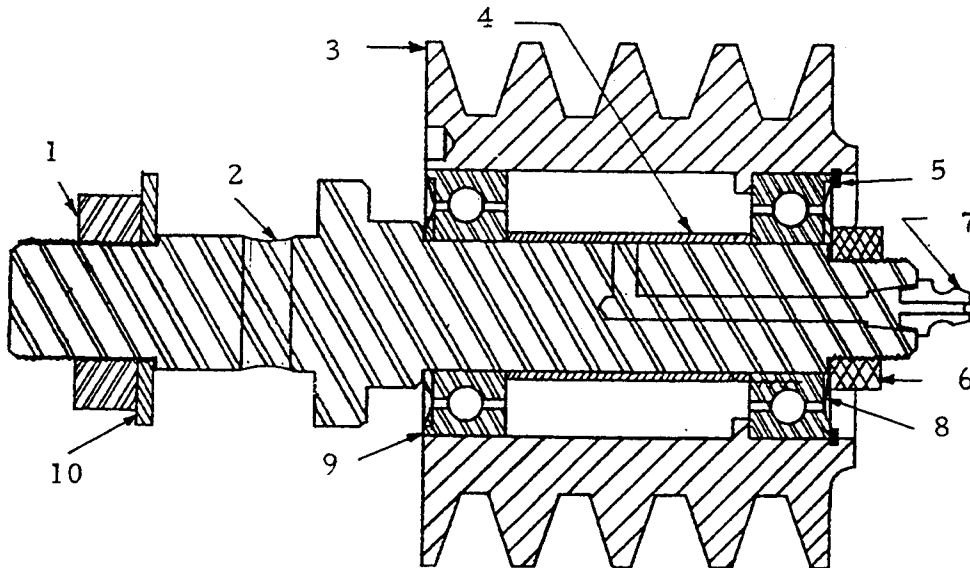


Figure 16

# AIR CONDITIONING

<u>Part Number</u>	<u>Part Name</u>	<u>Per Vehicle</u>
<u>Compressor Drive Mounting and Idler Pulley (continued)</u>		
GBK-10115	DOWEL, comp. pulley support	2
GBK-10116	DOWEL, pillow block to support	2
119512	FITTING, lubrication (7-Fig. 16)	1
120384	LOCKWASHER, (1/2" med.)	4
120371	NUT, hex (1/2" - 20 N.F. cad. plated)	4
272920	NUT, lock (3/4" - 16) (6-Fig. 16)	1
272922	NUT, lock (7/8" - 14) (1-Fig. 16)	1
GBK-10100-A	*PILLOW BLOCK ASSEMBLY, (w/4 groove pulley)	1
GBK-10010-A	. PILLOW BLOCK ASSEMBLY, (w/out pulley)	1
GBK-10003	*. BEARING, pillow block ball (Pulley end)	1
GBK-10016	*. BEARING, pillow block ball (Universal end)	1
GBK-10004	*. BODY, pillow block	1
271284	*. FITTING, lubrication (cad. plated)	1
124553	*. KEY, Woodruff (1/4 x 1")	1
GBK-10101	*. PULLEY, freon compressor (13-Fig. 6)	1
GBK-11287	*. RING, retainer	1
GBK-10002-A	*. SHAFT, pillow block (w/4 groove pulley)	1
GBK-10015	*. SPACER, pillow block bearing	1
GBK-10008	. VENT, air	1
GBK-10106	PULLEY, idler (3-Fig. 16)	1
GBK-10007	RING, snap (5-Fig. 16)	1
GBK-10105	SHAFT, freon compressor drive idler (2-Fig. 16)	1
GBK-10102	SHIM, pillow block (freon compressor)	As Req.
GBK-10114	SPACER, compressor idler pulley (4-Fig. 16)	1
GBK-10107	SPACER, (.034 - .032)	As Req.
GBK-10108	SPACER, (.016 - .015)	As Req.
76T-195	STUD, (1/2" - 13 N. C x 1/2" - 20 N. F. x 2-1/4" long)	4
60T-172	WASHER, idler shaft (10-Fig. 16)	1

\* - See illustration Fig. 3 page 11.

# NUMERICAL LISTING OF PART NUMBERS

<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>
57T-2	40	76T-195	22-59	GBK-9009	10
59T-2	8	76T-196	22	GBK-9020	10
16U-1857-2	52	76T-197	44	GBK-9021-A	10
5T-4	35	76T-198	39	GBK-9022	10
89T-4	23	41T-210	55	GBK-9023	9
1T-5	25	41T-216	53-54-55	GBK-9024	11
5T-5	35	41T-217	54	GBK-9028	10
85T-5	19	41T-218	53-54-55	GBK-9029	10
7T-6	10-12	41T-219	37-53-54-55	GBK-9030	10
65T-7	18	41T-220	53-55	GBK-9032	10
65T-8	40	41T-221	54	GBK-9034	11
78T-20	19	41T-222	55	GBK-9035-A	10
83T-24	37	41T-230	54	GBK-9036	10
24T-29	37	41T-237	54	GBK-9037	10
24T-31	25	41T-246	37	GBK-9038	10
24T-32	17-43	41T-296	55	GBK-9041	9
24T-33	37	41T-299	55	GBK-9042-A	10
24T-34	54	A37-24-381	55	GBK-9051	14
58T-37	5	2T-414	38	GBK-9053	11
64T-39	8-34	2T-417	25	GBK-9055	14
14T-39	19	2T-418	25	GBK-9059	12
5T-39	35	2T-419	21-58	GBK-9060	9
57T-39	40	2T-420	58	GBK-9061	12
58T-40	40	2T-421	11	GBK-9062	12
14T-43	25	2T-422	40	GBK-9063	12
5T-59	23	2T-423	6	GBK-9064	12
63T-59	40	2T-424	9	GBK-9065	12
5T-70	35	2T-425	33	GBK-9066	12
75T-75	19	15U-1027	41	GBK-9067	12
5T-82	35	14P-1031	25-35	GBK-9068	12
5T-83	7-35-37-38-40	J5-1167	50	GBK-9069	11
64T-83	7	16P-1221	57	GBK-9100	46
5T-84	35-40	R3-1458	41	GBK-9106	37
64T-84	7	MH440-2623	8	GBK-9110	9
5T-85	10	A50-2631	40	GBK-9111	12
5T-86	35	M5-2911	23	GBK-9113	34
64T-86	34-40	GBK-8950	9	GBK-9155	50
5T-88	23	GBK-8953	9	GBK-9156	50
5T-89	37	GBK-8954	9	GBK-9157	50
5T-90	35	GBK-8955	9	GBK-9158	50
5T-91	35	GBK-8956	9	GBK-9160	50
60T-131	11	GBK-8957	9	GBK-9161	50
60T-172	22-59	GBK-9002	10	GBK-9164	50
60T-173	38	GBK-9004	10	GBK-9168	50
60T-174	26	GBK-9005	10	GBK-9172	32
60T-175	54	GBK-9006	10	GBK-9175	32

# NUMERICAL LISTING OF PART NUMBERS

<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>
GBK-9176	32	GBK-9802	18	GBK-10250	37
GBK-9181	32	GBK-9850	18	GBK-10264	39
GBK-9182	32	GBK-9855	18	GBK-10265	39
GBK-9183	32	GBK-9900	19	GBK-10266-A	39
GBK-9185	32	GBK-9950	21	GBK-10267	39-54
GBK-9194	50	GBK-9951	40	GBK-10277	37
GBK-9195	32-50	GBK-9956	19	GBK-10280	37
GBK-9196	10-32	GBK-9957	19	GBK-10281	37
GBK-9253	31	GBK-9958	19	GBK-10300	38
GBK-9255	31	GBK-9959	19	GBK-10402	38
GBK-9256	32	GBK-9960	22	GBK-10403	38
GBK-9260	32	GBK-9965	22	GBK-10451	41
GBK-9261	32	GBK-9967	22	GBK-10453	41
GBK-9265	31	GBK-9968	22	GBK-10458	41
GBK-9350	51	GBK-9969	22	GBK-10501	41
GBK-9400	1	GBK-9970	22	GBK-10502	41
GBK-9401	3	GBK-9971	22	GBK-10551	28
GBK-9451	15	GBK-10000-A	21	GBK-10553-A	35
GBK-9452	15	GBK-10001	22	GBK-10555-A	35
GBK-9455	16	GBK-10002-A	22-59	GBK-10556	35
GBK-9501	17	GBK-10003	21-59	GBK-10557	34
GBK-9601	17	GBK-10004	21-59	GBK-10558	34
GBK-9602	17-39	GBK-10005	22	GBK-10559	32
GBK-9604	17	GBK-10006	22	GBK-10560	34
GBK-9605	17	GBK-10007	22-59	GBK-10562	35
GBK-9606	17	GBK-10008	22-59	GBK-10565	28
GBK-9607	17	GBK-10010-A	21-59	GBK-10566	31
GBK-9631	17	GBK-10014	22	GBK-10567	36
GBK-9633	17	GBK-10015	22-59	GBK-10568	33
GBK-9651	18	GBK-10016	21-59	GBK-10569	33
GBK-9652	18	GBK-10017	21-58	GBK-10570	35
GBK-9653	17	GBK-10050	58	GBK-10572-A	35
GBK-9654	52	GBK-10100-A	59	GBK-10573	35
GBK-9655	18	GBK-10101	59	GBK-10574-A	35
GBK-9656	18	GBK-10102	59	GBK-10575-A	35
GBK-9657	18	GBK-10105	59	GBK-10576-A	35
GBK-9658	18	GBK-10106	59	GBK-10577-A	35
GBK-9659	18	GBK-10107	59	GBK-10578	35
GBK-9662	17	GBK-10108	59	GBK-10580	35
GBK-9663	17	GBK-10114	59	GBK-10581	35
GBK-9664	18	GBK-10115	39-59	GBK-10582	35
GBK-9666	37	GBK-10116	59	GBK-10583	35
GBK-9669	38	GBK-10117	58	GBK-10584	35
GBK-9670	17	GBK-10118	58	GBK-10585	35
1C-9737	10	GBK-10150	38	GBK-10586	35
GBK-9801	18	GBK-10200	38	GBK-10587	35

# NUMERICAL LISTING OF PART NUMBERS

<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>
GBK-10588	36	GBK-10703	52	GBK-10885	53
GBK-10589	36	GBK-10705	55	GBK-10889	54
GBK-10590	36	GBK-10708	25	GBK-10891	53
GBK-10591	36	GBK-10757	54	GBK-10892	53
GBK-10592	35	GBK-10758	52	GBK-10893	53-54
GBK-10594	34	GBK-10759	52	GBK-10894	53
GBK-10597	35	GBK-10760	52	GBK-10898	53
GBK-10598	35	GBK-10761	52	GBK-10899	52-53
GBK-10599	35	GBK-10762	52	GBK-10900	53
GBK-10602	43	GBK-10763	56	GBK-10905	54
GBK-10603	43	GBK-10764	56	GBK-10906	54
GBK-10604	18	GBK-10765	52	GBK-10908	53
GBK-10605	18	GBK-10766	52	GBK-10909	53
GBK-10606	38	GBK-10767	56	GBK-10910	17
GBK-10607	43	GBK-10771	56	GBK-10911	17
GBK-10608	43	GBK-10772	56	GBK-10912	17
GBK-10609	43	GBK-10773	56	GBK-10915	54
GBK-10610	40	GBK-10774	52	GBK-11001	52
GBK-10611	40	GBK-10775	52	GBK-11001-S	52
GBK-10612	40	GBK-10776	52	GBK-11002	53
GBK-10613	40	GBK-10777	54	GBK-11003	53
GBK-10614	8	GBK-10778	52	GBK-11005	53
GBK-10615	8	GBK-10779	56	GBK-11006	53
GBK-10616	8	GBK-10780	54	GBK-11010	53
GBK-10617	8	GBK-10781	56	GBK-11011	53
GBK-10618	8	GBK-10782	56	GBK-11013	53
GBK-10619	8	GBK-10783	55	GBK-11014	53
GBK-10620	38	GBK-10801	55	GBK-11015	53
GBK-10621	28	GBK-10802	55	GBK-11017	52
GBK-10650	38	GBK-10806	41	GBK-11019	53
GBK-10651	38	GBK-10810	41	GBK-11021	54
GBK-10655	38	GBK-10813	41	GBK-11022	54
GBK-10656	38	GBK-10820	52	GBK-11023	54
GBK-10657	38	GBK-10850	53	GBK-11024	54
GBK-10658	38	GBK-10851	53	GBK-11025	23
GBK-10660	39	GBK-10853	53	GBK-11026	52
GBK-10661	39	GBK-10854	54	GBK-11037	23
GBK-10664	39	GBK-10857	54	GBK-11050	52
GBK-10665	39	GBK-10863	54	GBK-11058	55
GBK-10666	39	GBK-10866	54	GBK-11059	54
GBK-10668	39	GBK-10867	54	GBK-11063	52
GBK-10669	38	GBK-10868	54	GBK-11064	52
GBK-10670	38	GBK-10880	53	GBK-11065	55
GBK-10671	38	GBK-10881	53	GBK-11075	55
GBK-10701	52	GBK-10883	53	GBK-11076	55
GBK-10702	52	GBK-10884	53	GBK-11079	23



# NUMERICAL LISTING OF PART NUMBERS

<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>
GBK-11086	55	GBK-11276	4	GBK-11395	57
GBK-11087	55	GBK-11277	7	GBK-11396	7
GBK-11088	56	GBK-11278	6	GBK-11401	43
GBK-11089	56	GBK-11279	8	GBK-11402	43
GBK-11092	55	GBK-11280	26	GBK-11403	43
GBK-11093	55	GBK-11283	25	GBK-11404	43
GBK-11094	52	GBK-11284	25	GBK-11405	43
GBK-11096	52	GBK-11285	26	GBK-11406	19-43
GBK-11102	52	GBK-11286	26	GBK-11407	44
GBK-11105	52	GBK-11287	22-25-59	GBK-12000	34
GBK-11110	52	GBK-11288	25	GBK-12001	34
GBK-11111	52	GBK-11289	25	GBK-12003	34
GBK-11156	55	GBK-11290	25	GBK-12008	38
GBK-11201	52	GBK-11292	28	19B-14567-A1	35
GBK-11202	55	GBK-11293	28	30205	28
GBK-11210	28	GBK-11294	25	38273	23
GBK-11211	28	GBK-11296	7	GBK-55100	39
GBK-11212	28	GBK-11297	8	100030	27
GBK-11219	28	GBK-11300	43	103361	52
GBK-11221	55	GBK-11301	18	103374	12
GBK-11222	55	GBK-11308	41	103385	12
GBK-11223	55	GBK-11310	38	103387	19
GBK-11224	55	GBK-11317	32	103893	23
GBK-11225	55	GBK-11321	36	104036	39
GBK-11226	55	GBK-11325	43	104136	55
GBK-11227	55	GBK-11333	43	109350	50
GBK-11245	41	GBK-11334	43	109723	33
GBK-11251	28	GBK-11341	40	111292	40
GBK-11252	26	GBK-11355	5	111635	28
GBK-11253	28	GBK-11356	5	113782	10
GBK-11254	28	GBK-11357	5	117825	10
GBK-11255	28	GBK-11358	5	112726	39-53
GBK-11259	37	GBK-11377	57	114548	27
GBK-11261	40	GBK-11378	57	114783	39
GBK-11262	32	GBK-11379	57	114785	17
GBK-11263	40	GBK-11380	57	114786	10
GBK-11265	40	GBK-11381	57	119291	19
GBK-11266	41	GBK-11382	57	119512	10-21-59
GBK-11267	40	GBK-11383	57	119928	40
GBK-11268	40	GBK-11385	57	120214	7-10-18
GBK-11269	41	GBK-11386	57		28-39-54
GBK-11270	40	GBK-11387	57	120217	24-27-30
GBK-11271	40	GBK-11388	57		34-53
GBK-11272	40	GBK-11389	57	120221	7
GBK-11273	40	GBK-11391	57	120238	24
GBK-11275	8	GBK-11392	57	120322	17
				120361	57

# NUMERICAL LISTING OF PART NUMBERS

<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>
120367	10-27-32-37	124553	19-21-59	162459	23
	39-40-53-54	125250	12	162600	55
120368	10-18-28-39	125947	23-24	162874	55
	54	126009	41	162909	57
120369	10-17-21-37	127960	25	162912	52
	38-39-50-52	128140	31	178576	37
120371	19-21-22-37	131015	35	180021	46
	43-59	131017	44	180075	6-17
120375	40	131046	43	180077	6
120376	7-33-54	131095	33	180081	17-52
120377	54	131098	24	180083	52
120378	24-28	131099	39	180120	31-36
120380	10-32-37-40	131182	32	180122	17-37-41-43
	46-53-54	131183	7-53-57	180124	46
120381	27	131208	22	180126	39
120382	9-10-17-18	132760	25-33	180128	25
	21-32-36-37	132901	54	180132	52
	38-40-43-46	132908	30-35	180143	36
	50-54-58	132912	53	180145	37
120383	36-37-46	132931	54	180148	46
120384	12-17-19-21	132947	35	180176	17
	22-28-37-43	134551	33	180177	17
	59	135629	27	180194	37
120385	11	137159	17-38	181004	38
120388	17-38	137214	39	181566	37-53
120393	56	138078	38	181567	17-31
120394	17-39-41-56	138080	10-12-50	181595	28
120396	17-41-44	138479	30-34	181608	9
120585	27	138484	27	181610	52
120614	27-35-53	138545	30	181613	17
120622	10-32	139325	44	181617	52
120647	52	140306	7	181635	52
121222	10	143933	40	181636	58
121358	10-37	143953	57	181637	17-38-40-50
121574	10-37	144061	43	181638	9
121637	27	144114	57	181639	43-52
121749	25-33	144131	57	181646	17
121752	10	144243	38	181648	10
121832	33	147579	54	181666	37
121841	24-30-33	149006	55	181693	37
121954	27	152430	55	181698	22-37
122104	1	155118	55	181705	18
122427	25	155133	57	181707	18-43
124925	38	161633	33	181709	18
124934	10-12-28-50	161651	55	187395	19
124944	12-37	161657	55	187865	54

# NUMERICAL LISTING OF PART NUMBERS

<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>
189308	40	451525	10	895025	9
189334	43	453284	30	895026	9
191245	31	453288	30	903209	26
191249	37	453289	30	905101	14
192071	39	453986	30	905102	14
192406	37	454155	30	905103	14
192470	57	454565	32-43-50	905104	14
213875	17	455713	31	905105	14
214003	40	455714	30	905106	14
214113	52	455862	38	905107	14
216302	54	455973	40	905108	14
218245	57	456173	10-50	905109	14
219913	57	456174	28	905110	14
223826	58	456289	37	905111	14
223836	37	810085	33	905112	14
271284	59	810794	25	905113	14
271285	38	811912	25	905114	14
271501	41	813731	32-33	905115	14
271506	37	816863	32	905116	14
271724	37	822205	32	905117	14
271744	37	826319	32	905118	14
271749	9	834560	33	905119	14
272257	22	895001	9	905120	14
272920	21-59	895002	9	905121	14
272922	21-59	895003	9	905122	14
273913	24	895004	9	905123	14
273937	54	895005	9	905124	14
422967	27	895006	9	905125	14
423336	27	895007	9	905127	14
423337	27	895008	9	905128	14
426099	43	895009	9	905129	14
431675	12	895010	9	905130	14
444000	18	895011	9	905131	14
444163	15	895012	9	905132	14
444284	15	895013	9	905133	14
444486	7	895014	9	906901	12
444572	28	895015	9	906902	12
444584	19	895016	9	906903	12
444590	15	895017	9	906904	12
446152	11	895018	9	906905	12
446646	24	895019	9	906906	12
446653	30	895020	9	906907	12
448112	55	895021	9	906908	12
448116	55	895022	9	906909	12
449905	37	895023	9	906910	12
449949	55	895024	9	906911	12
				906912	12

# NUMERICAL LISTING OF PART NUMBERS

<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>
906913	12	910036	48	910082	46
906914	12	910037	46	910083	46
906915	11	910038	49	910084	46
906916	12	910039	49	910085	46
906917	11	910040	48	910086	46
906918	12	910041	48	910087	48
906919	11	910042	48	910088	48
906920	12	910043	49	910089	49
906921	12	910044	48	910090	49
906922	12	910045	48	910091	49
906923	11	910046	49	910092	49
906924	12	910047	48	910093	48
906925	11	910048	48	910094	50
910001	46	910049	46	910095	48
910002	48	910050	46	910096	48
910003	46	910051	46	910097	46
910004	48	910052	48	910098	48
910005	46	910053	48	910099	46
910006	48	910054	48	910100	50
910007	46	910055	50	910101	50
910008	46	910056	50	910102	50
910010	46	910057	50	910103	49
910011	46	910058	50	910104	49
910012	46	910059	50	910105	49
910013	46	910060	46	910106	49
910014	46	910061	46	910107	46
910015	48	910062	49	910108	48
910016	48	910063	49	910109	48
910017	50	910064	48	910110	46
910019	49	910065	50	910111	49
910020	49	910066	49	910112	49
910021	49	910067	48	910113	48
910022	50	910068	48	910114	49
910023	48	910069	48	910115	49
910024	49	910070	48	910116	49
910025	49	910071	48	910117	49
910026	50	910072	48	910118	49
910027	46	910073	48	910119	50
910028	46	910074	46	910120	50
910029	46	910075	48	910121	50
910030	48	910076	46	910122	50
910031	46	910077	46	910123	50
910032	49	910078	48	910124	50
910033	49	910079	46	910125	50
910034	46	910080	48	910126	49
910035	48	910081	48	910127	48

# NUMERICAL LISTING OF PART NUMBERS

<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>
910128	46	935006	51	940035	2
910129	49	935007	51	940036	2
910130	49	935008	51	940037	2
910131	49	935009	20-51-58	940038	2
910132	49	935010	51	940039	2
910133	49	935011	51	940040	2
910134	49	935012	51	940041	2
910135	49	935013	51	940042	2
910136	46	935014	51	940043	2
925301	31	935015	51	940044	2
925302	31	935016	51	940045	2
925303	31	935017	51	940046	2
925304	31	940001	1	940047	2
925305	31	940002	1	940048	2
925306	31	940003	1	940049	2
925307	31	940004	1	940050	2
925308	31	940005	1	940051	2
925309	31	940006	1	940052	2
925310	31	940007	1	940053	2
925311	31	940008	1	940054	2
925312	31	940009	1	940055	2
925313	31	940010	1	940056	2
925314	31	940011	1	940057	2
925315	31	940012	1	940058	2
925316	31	940013	1	940059	2
925317	31	940014	1	940060	2
925318	31	940015	1	940061	2
925319	31	940016	1	940062	2
925320	31	940017	1	940063	2
925321	31	940018	1	940064	2
925322	31	940019	1	940065	2
925323	31	940020	1	940066	2
925324	31	940021	1	940067	2
925325	32	940022	1	940068	2
925326	32	940023	1	940069	2
925327	32	940024	1	940070	2
925328	32	940025	1	940071	2-3
925329	32	940026	1	940072	2
925330	32	940027	1	940073	2
925331	32	940028	1	940074	3
925332	32	940029	1	940075	3
935001	51	940030	1	940076	3
935002	51	940031	1	940077	3
935003	51	940032	1	940078	3
935004	51	940033	2	940079	3
935005	51	940034	2	940080	3

# NUMERICAL LISTING OF PART NUMBERS

<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>
940081	3	945005	15	945051	15
940082	3	945006	15	945052	15
940083	3	945007	15	945053	15
940084	3	945008	15	945054	15
940085	3	945009	15	945055	15
940086	3	945010	15	945056	15
940087	3	945011	15	945057	16
940088	3	945012	15	945058	15
940089	3	945013	15	945059	16
940090	3	945014	15	945060	15
940091	3	945015	15	945061	15
940092	1	945016	15	945062	15
940093	1	945017	15	945063	15
940094	1	945018	15	945064	15
940095	3	945019	15	945065	15
940096	3	945020	16	954533	26
940097	3	945021	16	960101	17
940098	1	945022	16	960102	17
940099	3	945023	16	960103	17
940100	2-3	945024	16	960104	17
940101	1	945025	16	985001	19
940102	1	945026	16	985002	19
940103	1	945027	16	985003	19
940104	1	945028	16	985004	18
940105	3	945029	16	985005	19
940106	3	945030	16	985006	19
940107	3	945031	16	985008	19
940108	3	945032	16	985009	19
940109	3	945033	16	985010	19
940110	3	945034	16	985011	19
940111	3	945035	16	985012	19
940112	3	945036	16	985013	19
940113	3	945037	16	985017	18
940114	3	945038	15	985018	19
940115	3	945039	15	985019	19
940116	3	945040	15	985020	19
940117	2	945041	15	985021	19
940118	2	945042	16	985023	19
940119	1	945043	15	985024	19
940120	3	945044	15	985025	18
940121	3	945045	16	985026	19
940122	3	945046	15	985028	19
945001	15	945047	16	985029	18
945002	16	945048	16	985030	19
945003	16	945049	15	985031	18
945004	15	945050	15	985032	18

# NUMERICAL LISTING OF PART NUMBERS

<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>
985033	18	1125016	6	1125066	7
985034	18	1125017	6	1125067	6
985035	18	1125018	6	1125068	6
985036	18	1125019	6	1125069	7
985037	18	1125020	6	1125070	6
985038	18	1125021	6	1125071	6
985039	19	1125022	6	1125072	6
985040	19	1125023	6	1125073	7
985041	19	1125024	6	1127601	4
985042	19	1125025	7	1127602	4
990001	20	1125026	6	1127603	4
990002	20	1125027	7	1127604	4
1011701	58	1125028	7	1127605	4
1011702	20-58	1125029	7	1127606	4
1011703	20-58	1125030	6	1127607	4
1011704	19-58	1125031	6	1127608	4
1011705	19-58	1125032	6	1127609	4
1011706	19-58	1125033	6	1127610	4
1011707	20-58	1125034	6	1127611	4
1011709	19-58	1125035	7	1127612	4
1011710	58	1125036	6	1127613	4
1102501	23	1125037	7	1127614	4
1102502	23	1125038	7	1127615	4
1102503	23	1125039	7	1127616	4
1102504	23	1125040	7	1127617	4
1102505	23	1125041	7	1127618	4
1102506	23	1125042	7	1127619	4
1102507	23	1125043	6	1127620	4
1114058	23	1125044	7	1127621	4
1114098	23	1125045	6	1127622	4
1119879	33	1125046	6	1130001	44
1125001	6	1125047	7	1130005	44
1125002	6	1125048	7	1130006	44
1125003	6	1125049	7	1130009	43
1125004	6	1125050	6	1130010	44
1125005	6	1125051	7	1130011	44
1125006	6	1125052	7	1130012	44
1125007	7	1125053	7	1130013	44
1125008	7	1125054	7	1130014	44
1125009	6	1125055	7	1130015	44
1125010	6	1125056	7	1130016	44
1125011	6	1125057	7	1130017	44
1125012	6	1125062	6	1130018	44
1125013	6	1125063	6	1130019	44
1125014	6	1125064	7	1130020	44
1125015	6	1125065	7	1130021	44

# NUMERICAL LISTING OF PART NUMBERS

<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>
1130022	43	1857304	33	1908015	32
1130023	44	1857306	33	1908019	32
1130024	44	1857307	33	1908021	32
1130025	44	1857308	33	1908022	32
1130026	44	1860389	33	1909521	24
1130027	44	1861786	24	1909523	24
1130028	44	1861787	24	1909531	24
1130029	44	1861788	24	1909654	24
1130030	43	1861791	25	1909829	34
1130031	44	1864279	28	1910174	30
1130032	44	1865603	34	1910179	30
1130033	44	1865614	34	1910183	30
1130034	44	1867877	25	1911459	34
1130035	44	1868137	34	1911461	34
1130036	44	1871630	33	1911515	30
1130037	44	1871636	34	1911644	25
1130038	43	1872459	33	1912728	24
1130039	43	1874495	33	1912745	30
1130040	44	1874846	24	1914373	24
1133401	43	1874847	24	1916272	24
1133402	43	1874848	24	1916320	23
1133403	43	1874851	24	1917241	23-24
1133404	43	1877518	33	1918047	24
1133405	43	1877519	33	1918687	24
1133406	43	1878503	33	1918690	23
1133407	43	1888940	34	1921805	24
1133408	43	1900465	33	1922457	25
1133409	43	1902494	24-27	1923484	24
1133410	43	1903777	30	1925919	30
1133411	43	1904376	24	1930611	25-34
1133412	43	1904615	32	1933324	31
1137175	27	1904640	34	1934478	25
1837223	33	1904641	34	1936466	25
1838591	32	1904966	32	1937116	23
1843646	25	1904998	34	1940999	28
1847232	33	1905014	25	1941000	28
1847233	33	1905124	33	1941001	27
1847234	33	1905125	28	1941002	27
1847243	33	1905466	33	1941016	27
1847418	33	1905762	30-31	1941018	27
1850468	34	1905877	27	1941036	27
1850890	33	1906051	34	1941039	27
1850891	33	1906053	34	1941041	27
1850892	33	1906988	23	1941043	27
1855488	34	1907474	28	1941044	27
1857300	33	1908010	32	1941052	27



# NUMERICAL LISTING OF PART NUMBERS

<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>
1941054	27	1945422	27	1953025	26
1941055	27	1945468	23	1954861	33
1941056	27	1945469	23	1957847	24
1941057	27	1945470	25	1959519	26
1941058	26	1945472	24	9401482	53-54
1941059	26	1945473	25	9411579	40
1941060	27	1945474	25	9412305	24
1941063	26	1945475	23	9412358	25
1941391	30	1945476	23	9415234	25
1941463	30	1945477	23	9415565	30
1941464	30	1945478	24	9415767	10
1941466	28	1945479	24	9415796	41
1941467	30	1945480	25		
1941468	30	1945484	24		
1941471	30	1945487	23		
1941472	30	1945499	23		
1941473	30	1945506	24		
1941474	30	1945509	24		
1941475	30	1945510	24		
1941477	30	1945514	23		
1941479	30	1945517	24		
1941480	28	1945518	24		
1941482	28	1945521	24		
1941483	30	1945861	25		
1941484	30	1945906	23		
1941485	28	1945924	33		
1941822	28	1946002	34		
1942256	25	1946003	34		
1942257	23	1946004	34		
1942260	25	1946558	27		
1942282	25	1946568	26		
1942421	27	1947262	24		
1942422	28	1949109	23		
1942423	27	1949157	31		
1942826	28	1949160	30		
1942829	28	1949161	30		
1942830	30	1949162	31		
1942831	30	1949471	28		
1942969	33	1952193	27		
1944748	30	1952195	26		
1944836	34	1952196	27		
1945161	34	1952197	27		
1945356	25	1952212	26		
1945402	34	1953023	26		
1945409	34	1953024	26		

# INDEX

	<u>Page No.</u>		<u>Page No.</u>
Accelerator and Rods	38	Connectors, Wire	36
Accessory Drive	38	Cooling	15-22
Accumulator, Control Valve and		Crankcase Ventilator, Oil Filter	
Lever - Clutch	12-14	and Breather	37
Air Blower, Inlet	40-41	Cylinder, Clutch Control	11-12
Air Brake Lines	7-8		
Air Cleaner	41	Differential Carrier Assembly	1-3
Air Compressor	6-7	Doors	52-56
Air Conditioning	57-59	Drive, Accessory	38
Air Conditioning Compressor -		Drive Mounting and Idler Pulley,	
Drive and Shaft	58	Compressor	58-59
Air Governor	4-5	Drive and Shaft, Air Conditioning	
Air Shut-Off, Blower Air Inlet	40-41	Compressor	58
Axle, Rear	1-3		
		Electrical	23-36
Block, Pillow - W/Bracket and		Engine Mounting	37-38
Idler Pulley (Engine Cooling)	21-22	Engine Stabilizer	39
Blower Air Inlet - Air Shut-Off	40-41	Exhaust	41
Body	52-56		
Brakes	4-8	Fan and Drive	18
Brake Lines, Air	7-8	Fan Drive, Universal Assembly	19-20
Leather and Oil Filter,		Fan Gear Box	18-19
Crankcase Ventilator	37	Fan Support Assembly	22
Buzzer, Fuses and Relay,		Filter, Fuel	40
Junction Panels	34-35	Filter, Power Steering	43
		Fuel	40-41
Carrier Assembly, Differential	1-3	Fuel Filter	40
Cleaner, Air	41	Fuel Injector	41
Clutch	9-14	Fuel Lines	40
Clutch Accumulator, Control		Fuses, Junction Panels, Buzzer	
Valve and Lever	12-14	and Relay	34-35
Clutch Assembly	9		
Clutch Control	9-11	Gear Box, Fan	18-19
Clutch Control Cylinder	11-12	Gear Shift Lever and Control,	
Compressor, Air	6-7	Transmission	50
Compressor Drive Mounting		Generator	25-28
and Idler Pulley	58-59	Governor, Air	4-5
Compressor Drive and Shaft,			
Air Conditioning	58	Heater Pipes and Connections	57
Control Assembly, Vernatherm	16	Hose and Surge Tanks, Water	
Control, Clutch	9-11	Fittings	17-18
Control Cylinder, Clutch	11-12	Hydraulic Fluid Pump, Power	
Control, Throttle	39	Steering	43-44
Control Valve and Lever,			
Clutch Accumulator	12-14	Idler Pulley, Compressor Drive	
Connections, Heater Pipes	57	and Mounting	58-59

# INDEX

	<u>Page No.</u>		<u>Page No.</u>
Index	72-73	Radiator	15-16
Injector, Fuel	41	Radiator Latch Lever Assembly	17
Instruments	31	Radiator Mounting	17
Junction Panels, Buzzer -		Rear Axle	1-3
Fuses and Relay	34-35	Regulator, Voltage and Current	28-31
Lamps, Stop and Tail	23	Relay, Buzzer and Fuse	
Lamps, Target and License	23	Junction Panels	34-35
Latch Lever Assembly, Radiator	17	Rods, Accelerator	38
Lever and Control, Transmission		Shaft Assembly, Propeller	51
Gear Shift	50	Shaft, Propeller	51
License and Target Lamps	23	Shutter Assembly	15-16
Lines, Air Brake	7-8	Shut-Off, Air Blower-Inlet	40-41
Lines, Fuel	40	Solenoid	32-34
Lines, Oil	38	Speedometer	31-32
Miscellaneous	52-56	Stabilizer, Engine	39
Muffler Assembly	41	Starting Motor	23-25
Motor, Starting	23-25	Steering	43-44
Mounting, Engine	37-38	Stop and Tail Lamps	23
Mounting, Radiator	17	Support Assembly, Fan	22
Numerical Listing of Part		Switches	34
Numbers	60-71	Tail and Stop Lamps	23
Oil Filter and Breather,		Target and License Lamps	23
Crankcase Ventilator	37	Throttle Control	39
Oil Lines	38	Transmission	45-50
Panels, Junction - Buzzer -		Transmission Assembly	45-50
Fuses and Relay	34-35	Transmission Gear Shift -	
Part Numbers, Numerical		Lever and Control	50
Listing	60-71	Universal Assembly, Fan Drive	19-20
Pillow Block W/Bracket and		Valve and Lever, Clutch	
Idler Pulley (Engine Cooling)	21-22	Control - Accumulator	12-14
Pipes and Connections, Heater	57	Vernatherm Control Assembly	16
Power Steering Filter	43	Voltage and Current Regulator	28-31
Power Steering Hydraulic		Water Fittings, Hose and	
Fluid Pump	43-44	Surge Tanks	17-18
Power Steering Pump	43-44	Wiring	35-36
Propeller Shaft	51	Wire Connectors	36
Propeller Shaft Assembly	51		
Pump, Power Steering	43-44		
Pump, Power Steering			
Hydraulic Fluid	43-44		

# SPRING BRAKE ACTUATOR PARKING BRAKE

FOR GREYHOUND CORPORATION PD 4501 SCENICRUISER

## DESCRIPTION

**GENERAL** The spring brake system consists of remote type spring brake actuators and a control valve. This system is intended for use as a parking brake.

The spring brake actuators are attached to the service brake slack adjusters and are operated manually through the control valve.

**SPRING BRAKE ACTUATOR** The spring brake actuator (Figures 1 & 2) is an air cylinder with large return springs which are compressed by air pressure acting on the actuator's piston. When connected to the service brake slack adjuster releasing the air pressure from the actuator piston will apply the brakes. Restoring air pressure on the piston will release the brakes.

This remote stud mounted spring brake actuator incorporates in design a spring "cell" confined in a cylinder. The cylinder body may be removed from the spring "cell" to service the piston cup without releasing the spring load. A piston rod boot and an O-ring between the cover and cylinder seal the internal parts from water and foreign material.

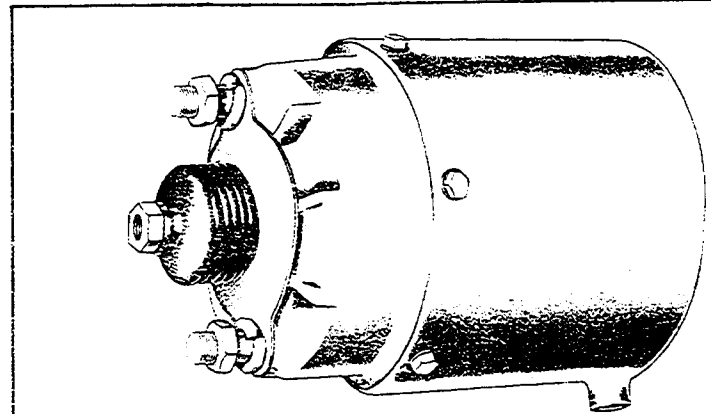


FIGURE 1 - EXTERIOR VIEW SPRING BRAKE ACTUATOR

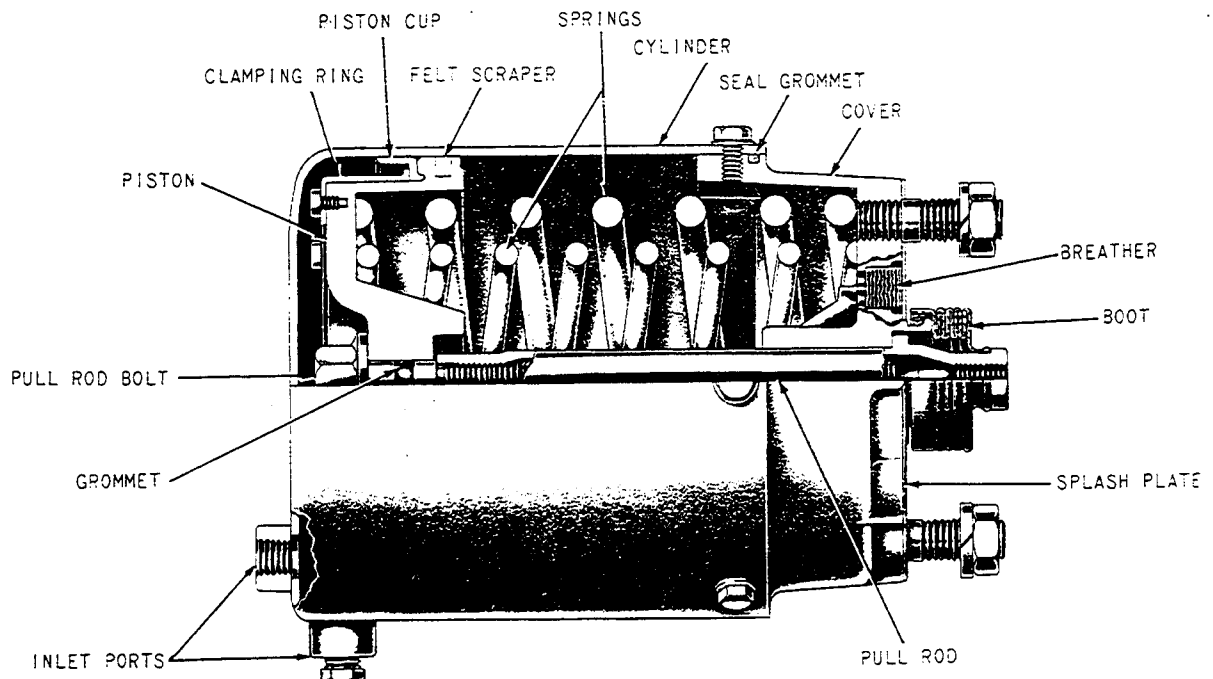


FIGURE 2 - SECTIONAL VIEW SPRING BRAKE ACTUATOR

**OPERATION** The control valve is connected to the parking brake reservoir and to the spring brake actuators.

The service brakes which are connected to the spring brake actuators are applied (pull rod retracted) when there is no air pressure in the actuators. To release the actuators (pull rod extended) the operator builds up the air brake system pressure above 60 psi and positions the control valve lever to "off".

To park the vehicle, the operator positions the spring brake control valve lever to "on". The air pressure in the pilot line between the control valve and quick release valves will exhaust through the control valve. The air pressure in the actuators will then exhaust at the quick release valves and the brakes will be applied by the actuators' pull force at the slack adjusters.

To release the spring brake application the operator positions the control valve lever to "off" and provided there is sufficient system air pressure (above 50 psi) the spring brake actuators will release. If necessary compressed air from an outside source can be supplied through tire valve in parking brake reservoir.

**NOTE:** SIMULTANEOUS APPLICATION OF PARKING BRAKE AND ICC CUTOFF BRAKE SHOULD NEVER BE MADE AS DAMAGE TO FOUNDATION BRAKES CAN OCCUR.

**PREVENTIVE MAINTENANCE** Depending upon operating conditions the actuator cylinder should be removed and the felt scraper cleaned, then saturated with clean engine oil and replaced. At the same time the piston cup and the inside of the cylinder should be cleaned and lubricated lightly. Approximately every year the control valve should be disassembled, cleaned, and lubricated. Rubber parts and parts subject to wear in both devices should be replaced if found to be worn or damaged during these maintenance checks. The mechanical linkage should be installed to permit unrestricted full strokes of both the spring brake actuators and the service brake chambers and kept in good adjustment for maximum effectiveness. Drain parking brake reservoir often so that clean dry air is supplied to parking brake actuators. Drain main air system occasionally to be sure check valve on parking brake reservoir is operating properly.

## **OPERATING AND LEAKAGE TEST**

- OPERATING**
- With the air brake system pressure at 100 psi the spring brake actuators should be released with control valve lever in "off" position.
  - With at least 100 psi in vehicle air brake reservoirs and the control valve lever positioned "on", the spring brake actuators should apply.
  - Stop engine. Position control valve lever "off" and observe that the spring brake actuators release. Repeat to "on" and "off" positions and note that actuators apply and release fully.

**LEAKAGE TEST** With the spring brake actuator in the released position (pull rod extended) check at the actuator breather or around the splash plate for piston cup or pull rod grommet leakage. Also check the exterior of the cylinder and cover for leakage. Also check at control valve in both "on" and "off" positions. No leakage is permissible.

## **REMOVING AND INSTALLING**

**REMOVING SPRING BRAKE ACTUATORS** Block or hold vehicle by some means other than air brakes. While the spring brake actuator is in the released position, disconnect the linkage between it and the slack adjuster. Open drain cock and exhaust air pressure from the parking brake system. Disconnect air line from actuator. Remove actuator mounting nuts, then actuator.

**REMOVING CONTROL VALVE** Block or hold vehicle by some means other than air brakes. Drain air brake system. Disconnect air lines from control valve.

- INSTALLING** Read schematic drawing 209438 prior to beginning installation. Lay out material in relation to the schematic and follow notes carefully.
- Remove radius rod anchor plates (right and left) from trailing axle.
  - Install new actuator brackets (right and left) driving brackets over serrations in bolts by tightening nut.
  - Remove slack adjusters from trailing axle (right and left) and install new double arm slack adjusters.
  - Install fittings and quick release valves on spring actuators and mount actuators so that quick release valves are inboard and to rear (right and left - Figures 3 & 4).

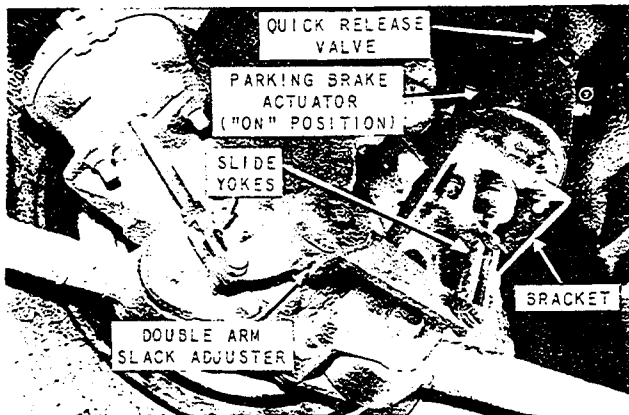


FIGURE 3 - RIGHT SIDE



FIGURE 4 - LEFT SIDE

5. Locate, drill mounting holes, and mount control line tee as shown on schematic drawing. Install fittings and hoses, using short hose from tee to right spring actuator and long hose from tee to left spring actuator (Figure 5).
6. Remove floor panel from ski compartment above left drive wheel and locate, drill mounting holes and mount new reservoir well forward on panel to permit access to drain cock on inboard reservoir. Install fittings, check valve, tire valve, and drain cock as shown in schematic drawing. Reinstall panel and reservoir in coach. (Figure 6).
7. Install two-way control valve as shown on drawing (Figure 7).

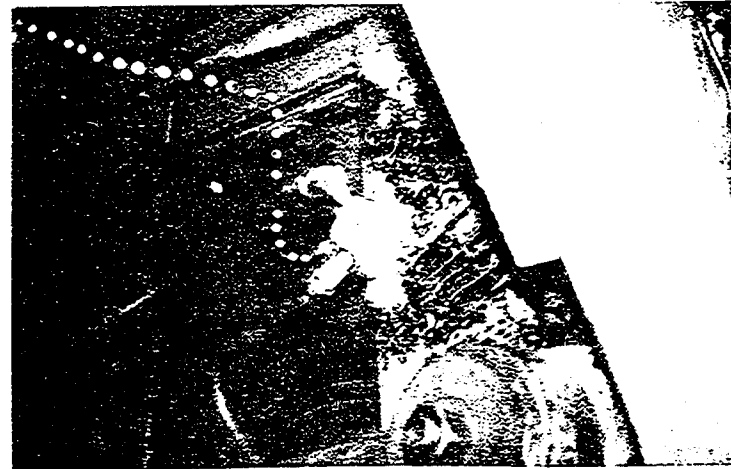


FIGURE 5 - TEE AND HOSES

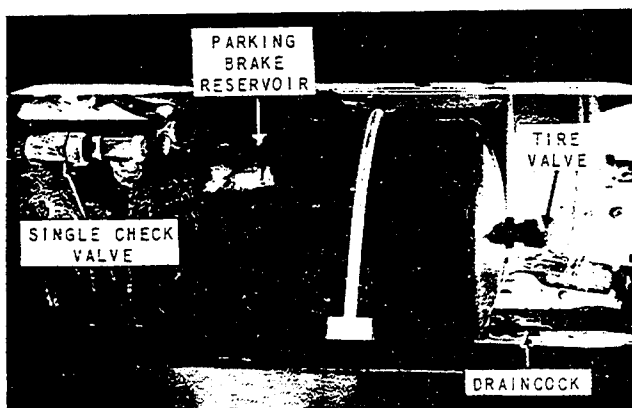


FIGURE 6 - RESERVOIR

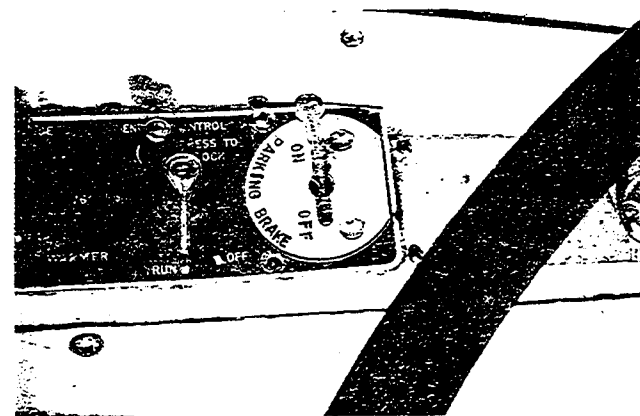


FIGURE 7 - TWO-WAY VALVE

8. Remove hand brake lever and locate, drill mounting holes, and install low pressure indicator as shown on drawing (Figure 8). Wire per Greyhound instructions.

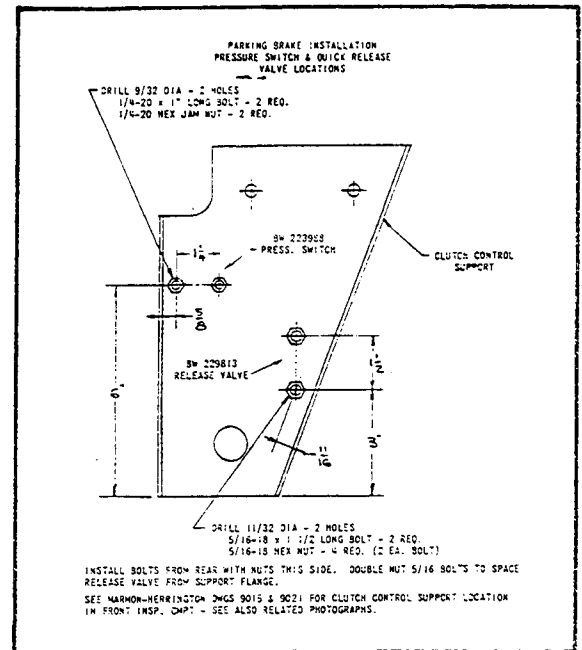
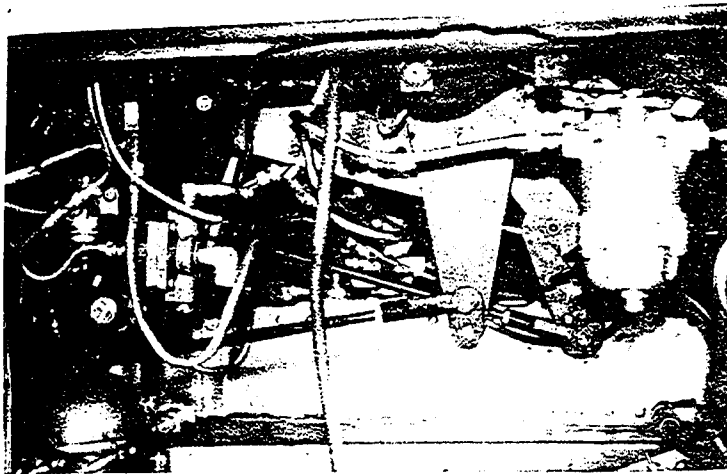
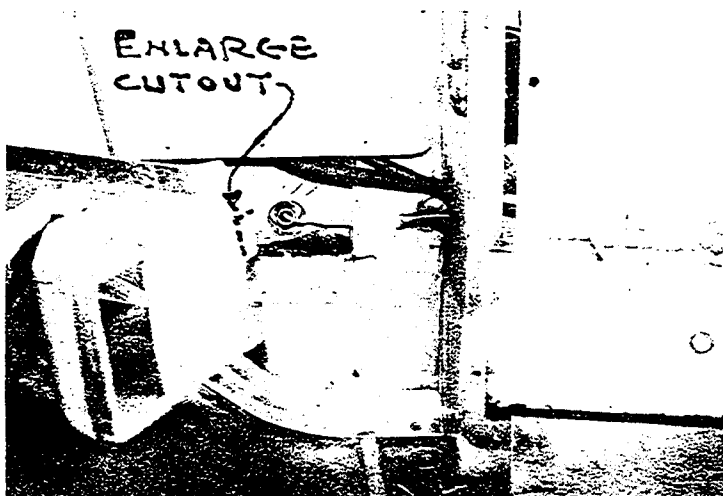
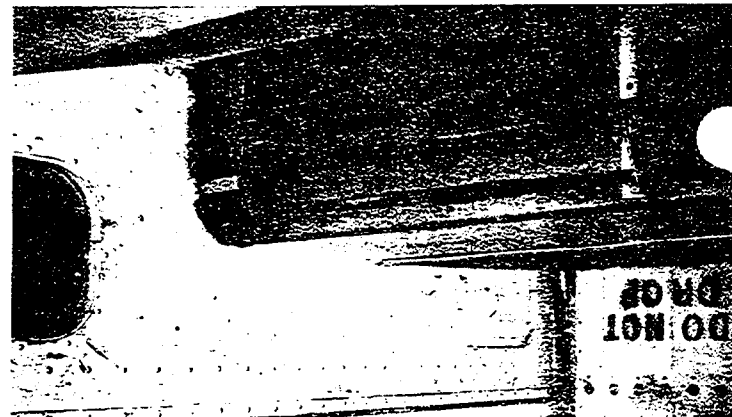


FIGURE 8 - LOW PRESSURE INDICATOR AND QUICK RELEASE VALVE.



INTERIOR VIEW AT DRIVER'S AIR DUCT SHOWING TUBING FROM ELECTRICAL BOX ENTERING HORIZONTAL AIR DUCT.



VIEW INTO FRONT BAGGAGE COMPARTMENT SHOWING ACCESS HOLE INTO BLOWER COMPARTMENT AND TUBING THRU GUSSETS IN CONTROL DUCT (LATER CHANGE: CLIP TO WOOD FLOOR).

FIGURE 9

9. Install tubing and loom as indicated on drawing (Figure 9). Connect all lines as shown on drawing. Follow carefully the notes on parking brake connection procedure on drawing. Check all air lines and devices for leakage. After adjustment make several service brake and parking brake applications and note that adjustment is correct on service brake chambers and spring brake actuators. With 100 psi in air system and engine stopped, parking brake actuators should release at least two times on actuation of the control valve.

## DISASSEMBLY

### SPRING BRAKE ACTUATOR (Figure 2)

- Remove cylinder body cap screws and lockwashers.
- Remove cylinder body from spring "cell".
- Remove cup clamping ring screws, clamping ring and piston cup.
- Remove felt oiler and cover sealing ring.
- Remove pull rod boot, splash plate and felt breather.
- Place the spring "cell" in a vise with pull rod bolt end up and the hex end of the rod held securely in the vise jaws. SLOWLY AND CAUTIOUSLY, remove the pull rod bolt. This will release the spring load as the bolt is removed.

Remove the springs.  
Remove the pull rod bolt from the piston.  
Remove the seal grommet from the pull rod bolt.  
Remove cover from the pull rod.  
Take pull rod out of vise.

## CLEANING AND INSPECTION

Wash all metal parts in a good cleaning solvent and dry. Wipe reusable rubber parts clean.  
Inspect all parts for excessive wear or deterioration.  
Inspect the inside area of the actuator cylinder for nicks and burrs.  
Check springs for cracks, distortion, or corrosion.  
Clean and inspect the internal threads of the pull rod and pull rod bolt threads.  
Inspect the actuator piston cup and grommet for wear or deterioration.  
Replace all parts not considered serviceable during these inspections, especially rubber parts.

## ASSEMBLY

Prior to assembly lubricate the inside of the cylinder and the piston cup with Bendix-Westinghouse recommended lubricant, piece number 240176 (Barium-Base Grease Spec. BW-204-M).  
Also, the pull rod bolt threads and grommet, cover seal grommet, piston and cover bores, should all be lubricated with Bendix-Westinghouse recommended lubricant, piece number 240176.  
Install pull rod in cover, then clamp hex of rod in vise.  
Position springs on cover.  
Install pull rod bolt grommet, then bolt with grommet, in piston.  
Position and start pull rod bolt in pull rod. Make sure springs properly seat in both the cover and piston as the bolt is turned down.  
Recommended torque on the pull rod bolt is 550-600 inch pounds.  
Saturate the felt scraper in clean engine oil and install in piston groove.  
Install the cover seal grommet.  
Install piston cup on piston.  
Install the cup clamping ring and tighten the cap screws with lockwashers.  
Install the felt breather, splash plate and boot.  
Install the cylinder with six (6) cap screws and lockwashers. All cap screws should be tightened even and torqued to between 130 and 170 inch pounds.

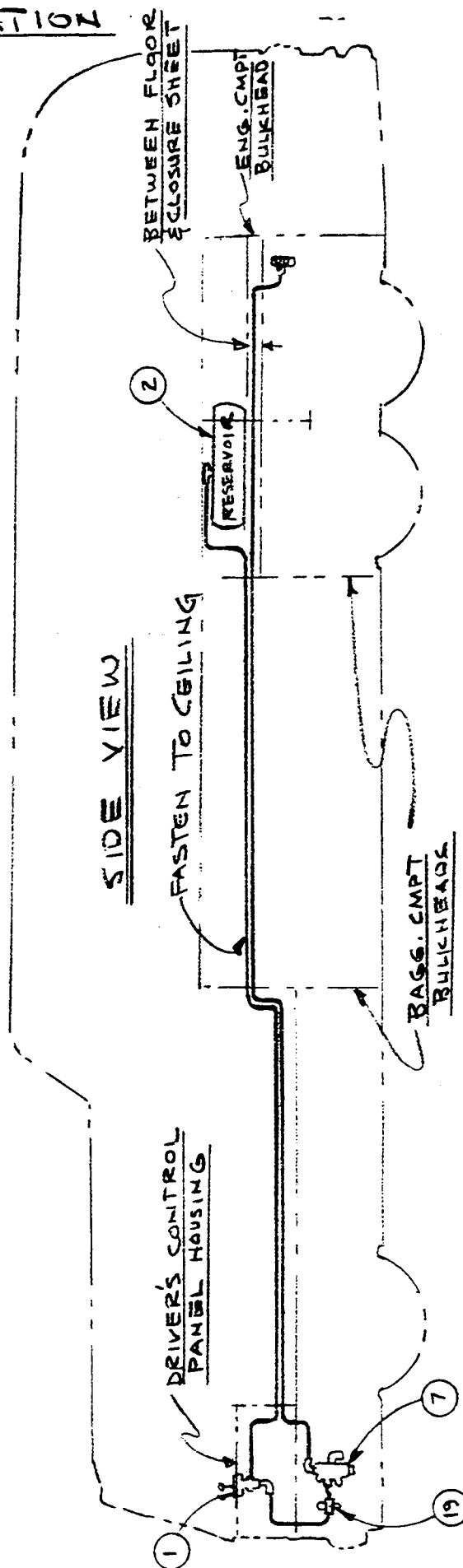
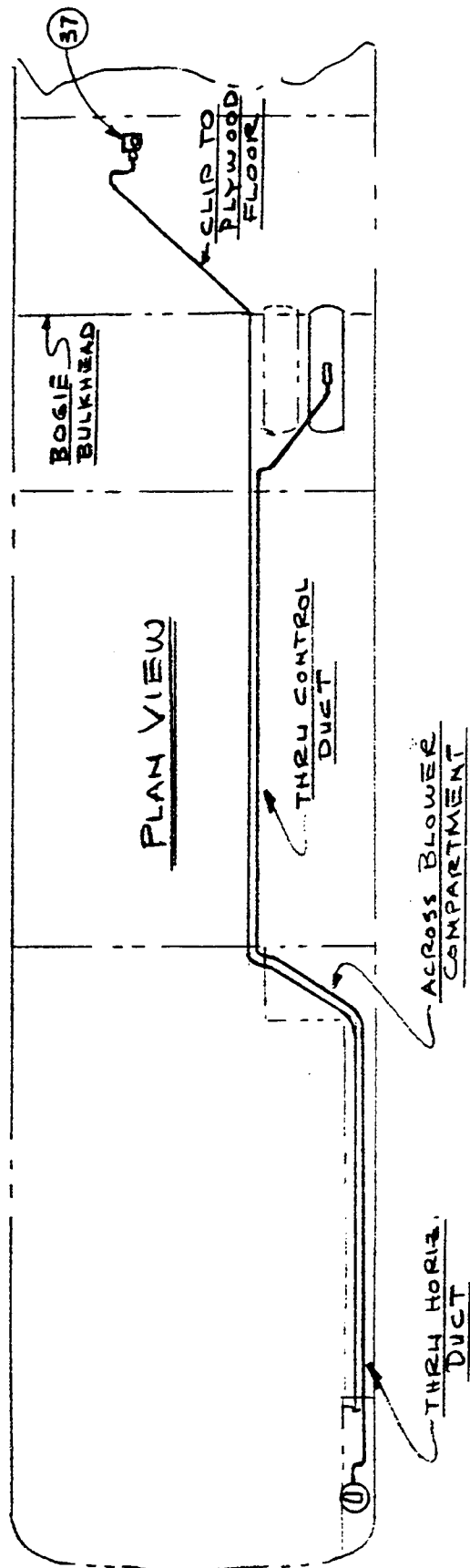
## PARTS INFORMATION

A complete Bill of Material is shown on schematic drawing 209438.  
The spring brake actuator is on the back of catalog sheet 4-K-1, copy attached.  
The control valve is the same basic valve as is used with the ICC cut-off valve on this coach.  
The slack adjusters are the same as currently used, except with 8" welded arm for spring actuator.  
The quick release valves are on the back of catalog sheet 4-D-1, copy attached.  
The low pressure indicator is similar to those currently in service, but cut-out setting is 50 psi, as shown on catalog sheet 4-J-1, copy attached.





# PARKING BRAKE INSTALLATION TUBE ROUTING (SEE BW 209438 DWG)

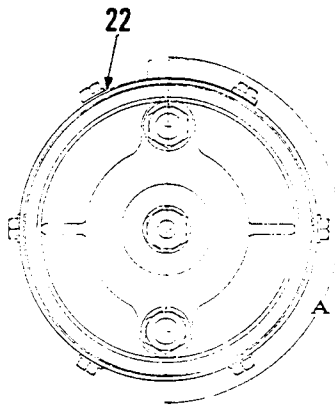
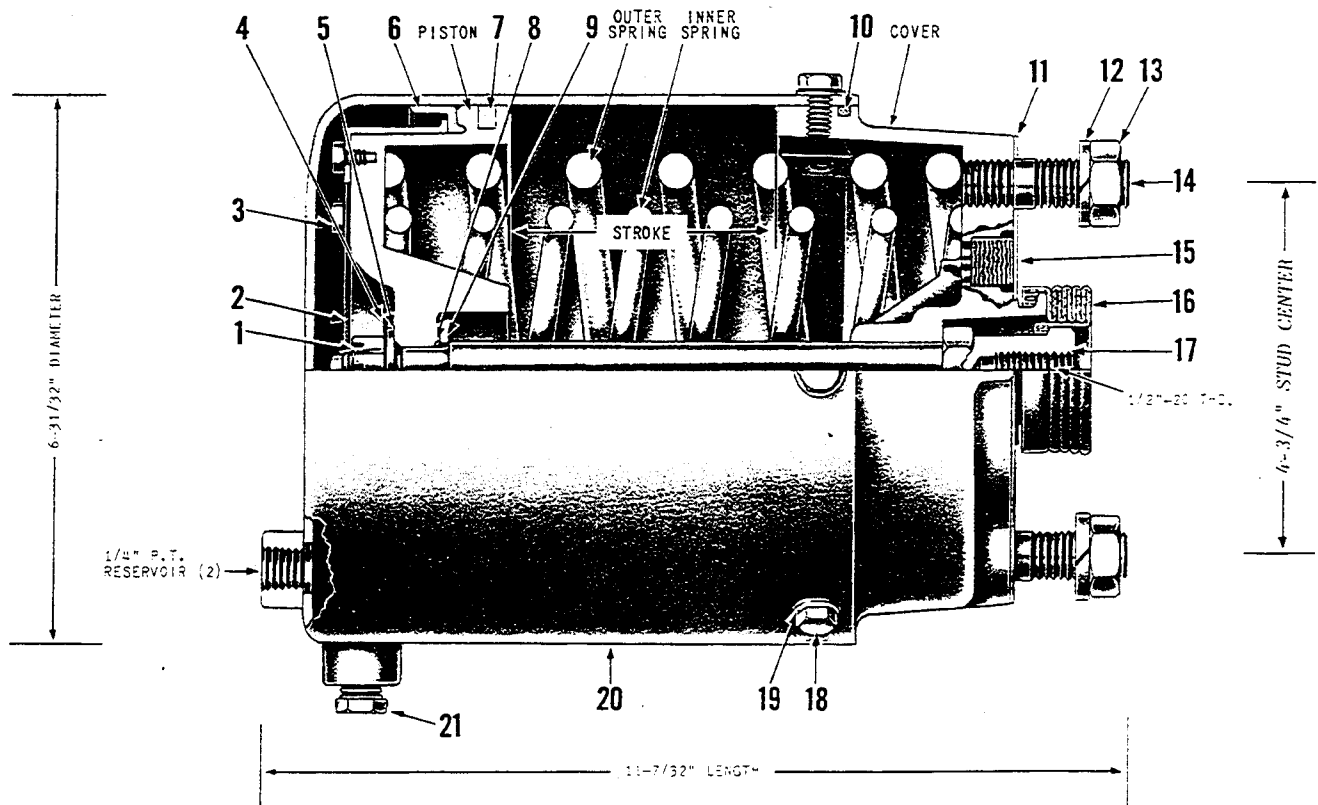
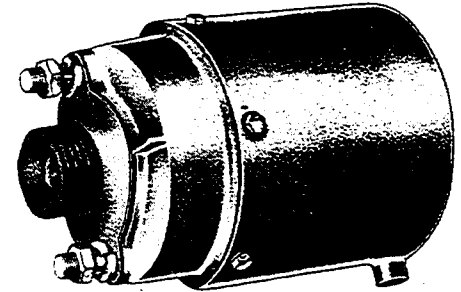


## SPRING TYPE BRAKE ACTUATOR

SPRING TYPE BRAKE ACTUATOR Pc. No.	Piston* Pc. No.	Cover* Pc. No.	Outer Spring* Pc. No.	Inner Spring* Pc. No.	STROKE	A DEGREES	INLET LOCATION
275161	240310	240304	240308	240309	3 1/2"	0	END
275162	240310	240304	240308	240309	3 1/2"	0	SIDE
275699	240911	240912	240913	240914	3 3/4"	180	SIDE

\*See note below.

THE ACTUATORS ON THIS CATALOG ARE SUPERSEDED BY ACTUATORS ON BACK OF THIS SHEET.



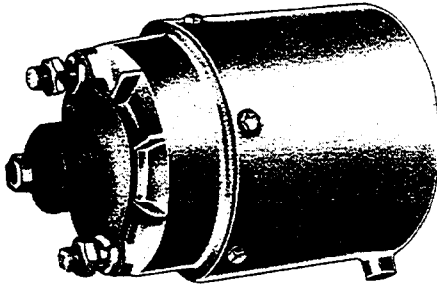
STUD END VIEW

No.	Pc.No.	Quan.	Description	No.	Pc.No.	Quan.	Description
1	203047*	1	SLOTTED HEX NUT	12	202986	2	LOCK WASHER*
2	240312	1	CLAMPING RING	13	204781	2	NUT
3	240313	8	#10 PAN HD. TAPPING SCREW	14	240538	2	STUD
4	240316*	1	WARNING TAG	15	240556	1	FELT BREATHER
5	203139*	1	PLATE WASHER	16	239496	1	BOOT
6	240311	1	PISTON CUP	17	275430*	1	PULL ROD
7	240536	1	FELT OILER	18	203417	6	CAP SCREW
8	214761*	1	GROMMET, 11/16" O.D.	19	201318	6	SHAKEPROOF LOCK WASHER
9	203173*	1	PLATE WASHER	20	275174	1	CYLINDER
10	240550	1	COVER SEALING RING	21	230111	1	PIPE PLUG, 1/4"
11	240555	1	SPLASH GUARD	22	239689	2	WASHER

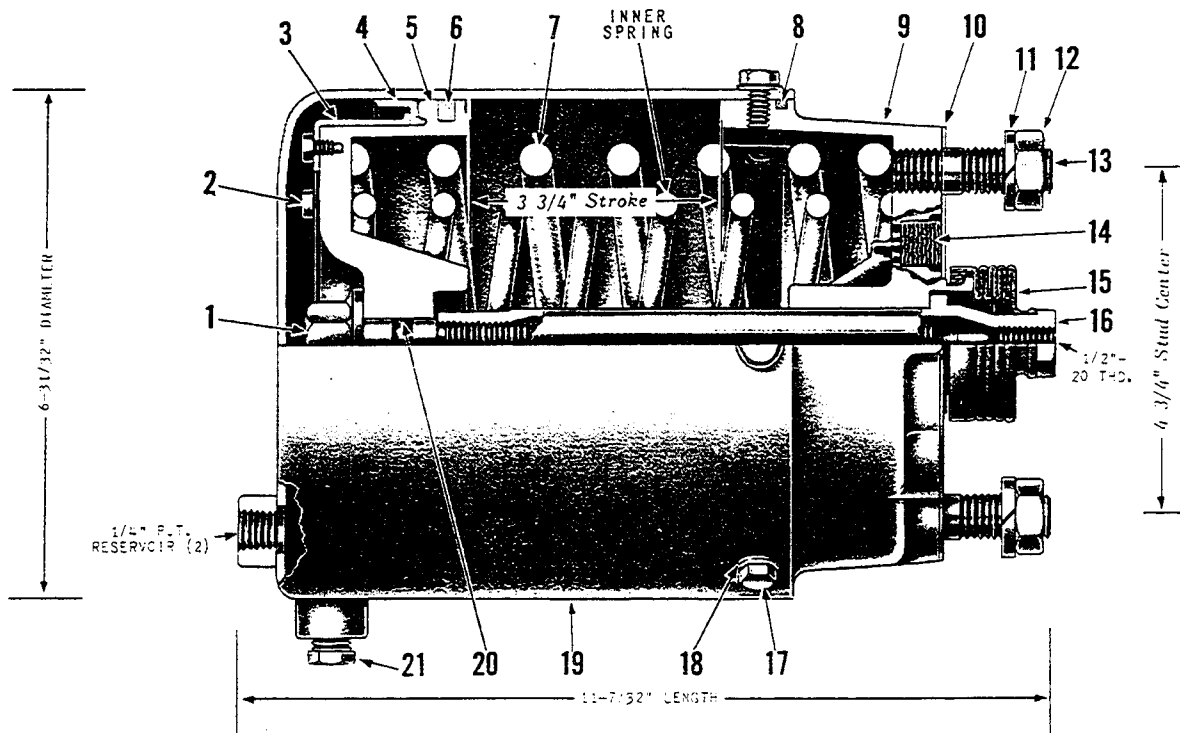
**NOTE:** A SMALL QUANTITY OF ABOVE ACTUATOR PC. NOS. WERE EQUIPPED WITH A COTTER PIN TO LOCK THE NUT (ITEM 1). SUBSEQUENT ACTUATORS OF THE SAME PC. NOS. HAVE THE NUT (ITEM 1) WELDED TO THE PULL ROD AS SHOWN IN THE VIEW ABOVE. IN EITHER VINTAGE OF ACTUATORS, DO NOT ATTEMPT TO DISASSEMBLE THE SPRING CELL ASSEMBLY. WHEN SERVICE REPLACEMENT IS REQUIRED ON ANY OF THE DETAIL ITEMS SHOWN ABOVE WITH AN ASTERISK (\*), IT IS RECOMMENDED THAT THE ENTIRE ACTUATOR BE REPLACED WITH EITHER A NEW ACTUATOR OR WITH A REPAIR EXCHANGE, FACTORY RECONDITIONED UNIT.

See Catalog 9-V-3 for Valves used with these Actuators.

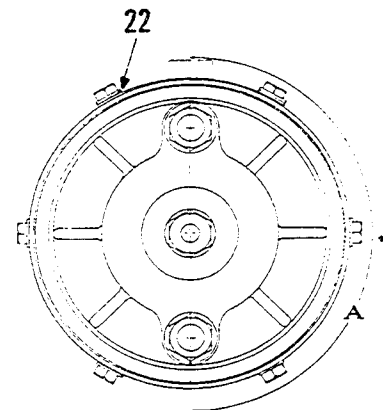
## SPRING TYPE BRAKE ACTUATOR



SPRING TYPE BRAKE ACTUATOR	Inner Spring	A DEGREES	INLET LOCATION	SUPERSEDES SPRING TYPE BRAKE ACTUATOR
Pc. No.	Pc. No.			Pc. No.
275787	240914	0	END	275161
275788	240914	0	SIDE	275162
275789	240914	180	SIDE	275699
276180	NONE	0	END	--



No.	Pc. No.	Quan.	Description
1	240784	1	PULL ROD BOLT
2	240313	8	#10 PAN HD. TAPPING SCREW
3	240312	1	CLAMPING RING
4	240311	1	PISTON CUP
5	240918	1	PISTON
6	240536	1	FELT OILER
7	240913	1	OUTER SPRING
8	240550	1	COVER SEALING
9	240919	1	COVER
10	240555	1	SPLASH GUARD
11	202986	2	LOCK WASHER
12	204781	2	NUT
13	240538	2	STUD
14	240556	1	FELT BREATHER
15	239496	1	BOOT
16	240783	1	PULL ROD
17	240730	6	CAP SCREW
18	201318	6	SHAKE PROOF LOCK WASHER
19	275174	1	CYLINDER
20	239136	1	GROMMET, 3/4" O.D.
21	230111	1	PIPE PLUG, 1/2"
22	239689	2	WASHER

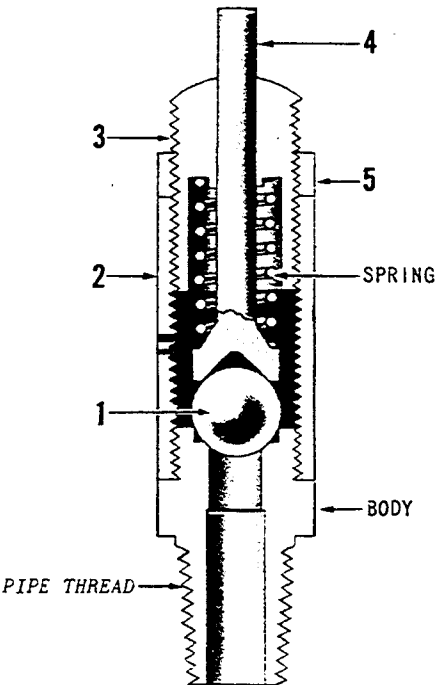


STUD END VIEW

*See Catalog 9-V-3 for Valves  
used with these Actuators.*

SAFETY VALVES

CATALOG 4D1

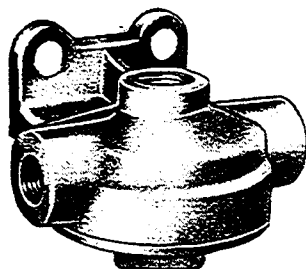


SAFETY VALVE	Body	Spring	PRESSURE SETTING	PIPE THREAD
Pc. No.	Pc. No.	Pc. No.	Stamped on Body	
205105	201609	201614	150 ±5#	1/4"
223444	232947	201614	150 ±5#	3/8"
215057	201609	201614	200 ±5#	1/4"
217593	201609	201614	85 TO 90#	1/4"
221154	201609	201614	175 ±5#	1/4"
221786	201609	201614	100 TO 105#	1/4"
225674	201609	201614	45 TO 48#	1/4"
228092	201609	201614	50 TO 53#	1/4"
229462	232947	239593	16 ±1#	3/8"
229868	201609	201614	53 TO 56#	1/4"
275362	201609	201614	70 TO 75#	1/4"
275846	201609	201614	135 ±5#	1/4"

No.	Pc. No.	Quan.	Description
1	213203	1	STEEL BALL
2	201610	1	SPRING CAGE
3	201611	1	ADJUSTING NUT
4	240517	1	RELEASE PIN
5	201612	1	LOCK NUT



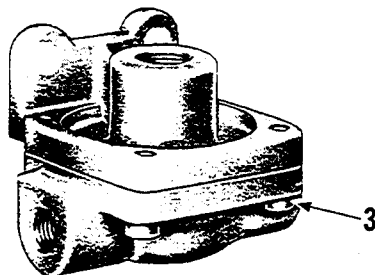
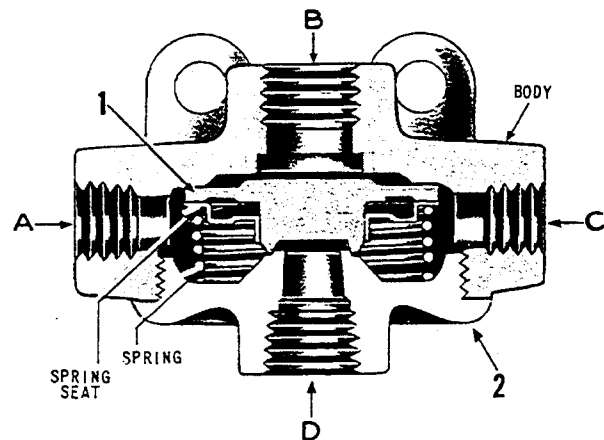
## QUICK RELEASE VALVES



QUICK RELEASE VALVE Pc. No.	Body Pc. No.	Spring Pc. No.	Spring Seat Pc. No.	PORT P.T. SIZES			
				A	B	C	D
205000	204847	202588	202587	1/4"	3/8"	1/4"	3/8"
221992*	230931	202588	202587	1/4"	1/2"	1/4"	3/8"
224417	234072	202588	202587	3/8"	3/8"	3/8"	3/8"
227688	230931	202588	237372	1/4"	1/2"	1/4"	3/8"
228691	239049	202588	202587	3/8"	1/2"	3/8"	3/8"
228955	204847	203373	237372	1/4"	3/8"	1/4"	3/8"
229095	230931	203373	237372	1/4"	1/2"	1/4"	3/8"

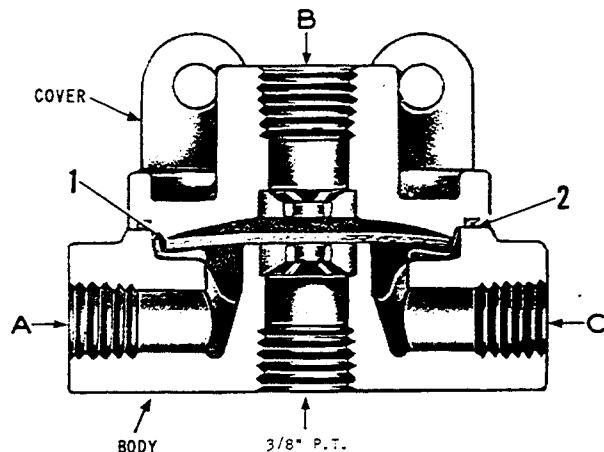
\*Supersedes Q. R. Valve, 227437.

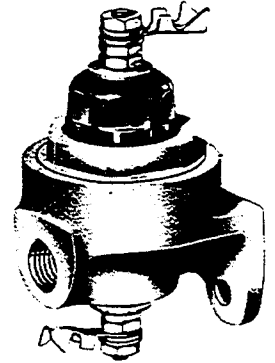
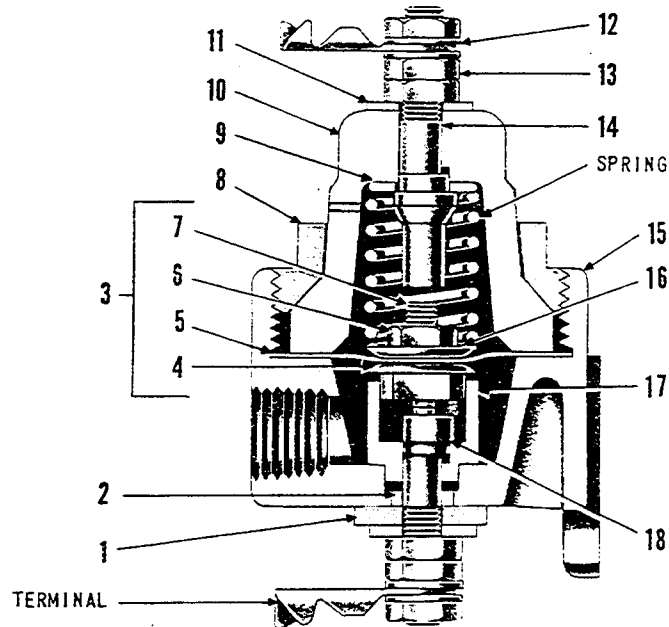
No.	Pc.No.	Quan.	Description
1	237925	1	DIAPHRAGM
2	211028	1	COVER



QR-1 QUICK RELEASE VALVE Pc.No.	Body Pc.No.	Cover Pc.No.	PORT P.T. SIZES		
			A	B	C
229813	240003	240005	1/4"	3/8"	1/4"
229844	240003	240006	1/4"	1/2"	1/4"
229859	240004	240005	3/8"	3/8"	3/8"
229860	240004	240006	3/8"	1/2"	3/8"

No.	Pc.No.	Quan.	Description
1	240011	1	DIAPHRAGM
2	240013	1	GROMMET, 2 1/4" o.d.
3	240012	1	MACHINE SCREW



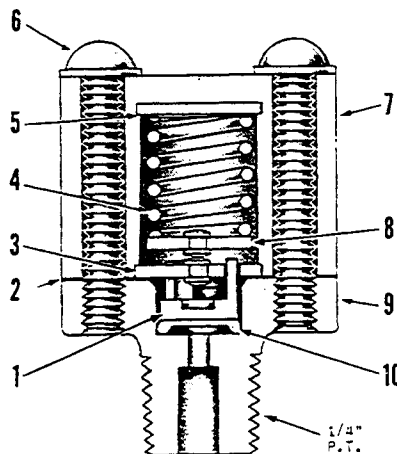
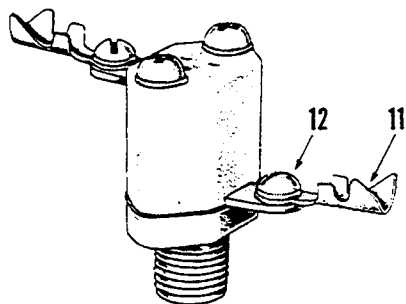
LOW PRESSURE INDICATORS  
TYPE LP-2

LOW PRESSURE INDICATOR	Spring	Terminal 2 Req'd.	CUT-OUT PRESSURE (Lbs. per Sq. In.)	SUPERSEDES LOW PRESSURE INDICATOR
Pc. No.	Pc. No.	Pc. No.		Pc. No.
223575	233114	203063	60 $\begin{smallmatrix} +5 \\ -0 \end{smallmatrix}$	215186
223870	233114	NONE	60 $\begin{smallmatrix} +5 \\ -0 \end{smallmatrix}$	222137
223987	233582	203063	30 $\begin{smallmatrix} +5 \\ -5 \end{smallmatrix}$	221781
223988	233583	203063	50 $\begin{smallmatrix} +5 \\ -5 \end{smallmatrix}$	223313
224044	233114	NONE	70 $\begin{smallmatrix} +6 \\ -6 \end{smallmatrix}$	--
224723	233582	NONE	30 $\begin{smallmatrix} +5 \\ -6 \end{smallmatrix}$	--

No.	Pc. No.	Quan.	Description	No.	Pc. No.	Quan.	Description
1	203057	1	TERMINAL WASHER	11	203247	2	CLAMPING WASHER
2	232068	1	GROMMET	12	203058	4	WASHER
3	223580	1	DIAPHRAGM ASSEMBLY	13	203059	6	NUT
4	233108	1	DIAPHRAGM WASHER	14	233111	1	TERMINAL SCREW
5	213227	1	DIAPHRAGM	15	233103	1	BODY
6	203059	1	NUT	16	233112	*	SHIM
7	223581	1	CONTACT SCREW		233113	*	SHIM
8	233115	1	COVER RETAINER	17	233104	1	TERMINAL BUSHING
9	233110	1	WASHER	18	223579	1	TERMINAL SCREW
10	233109	1	COVER				

\* Use if necessary to obtain Cut-Out Pressure required.

## LOW PRESSURE INDICATOR



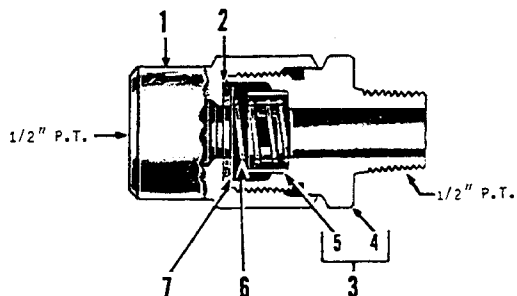
LOW PRESSURE INDICATOR  
(Cut Out Pressure 60 +6 -6 P.S.I.)

Pc.No. 228750

No.	Pc.No.	Quan.	Description
1	239102	1	PISTON
2	239103	1	GASKET
3	228748	1	CONTACT PLATE
4	239107	1	SPRING
5	239108	*	SHIM, .010"
	239804	*	SHIM, .004"
6	238963	2	MACHINE SCREW & L.W.
7	239109	1	COVER
8	228749	1	CONTACT DISC
9	239100	1	BODY
10	239101	1	"O" RING DIAPHRAGM
11	203063	2	TERMINAL
12	239110	2	MACHINE SCREW & L.W.



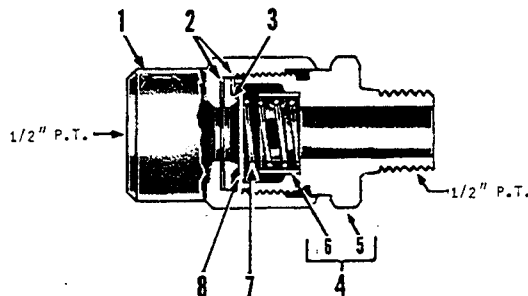
## SINGLE CHECK VALVES



### SINGLE CHECK VALVE (Rubber Seat)

Pc.No. 227788

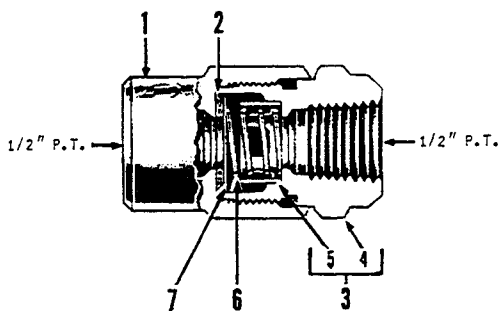
No.	Pc.No.	Quan.	Description
1	237990	1	BODY
2	237995	1	VALVE SEAT
3	227718	1	SCREW CAP ASSEMBLY
4	238007	1	SCREW CAP
5	237989	1	VALVE STOP BUSHING
6	237994	1	SPRING
7	237996	1	DISC VALVE



### SINGLE CHECK VALVE (Steel Seat)

Pc.No. 227717

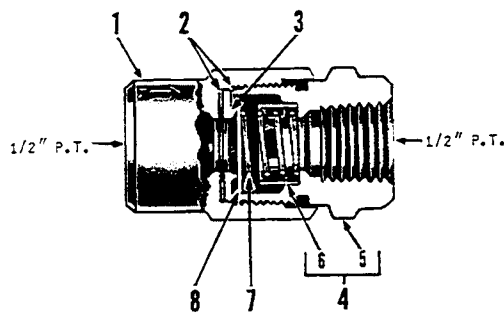
No.	Pc.No.	Quan.	Description
1	237990	1	BODY
2	238179	2	WASHER
3	237992	1	VALVE SEAT
4	227718	1	SCREW CAP ASSEMBLY
5	238007	1	SCREW CAP
6	237989	1	VALVE STOP BUSHING
7	237994	1	SPRING
8	238197	1	DISC VALVE



### SINGLE CHECK VALVE (Rubber Seat)

Pc.No. 227704

No.	Pc.No.	Quan.	Description
1	237990	1	BODY
2	237995	1	VALVE SEAT
3	227705	1	SCREW CAP ASSEMBLY
4	237988	1	SCREW CAP
5	237989	1	VALVE STOP BUSHING
6	237994	1	SPRING
7	237996	1	DISC VALVE



### SINGLE CHECK VALVE (Steel Seat)

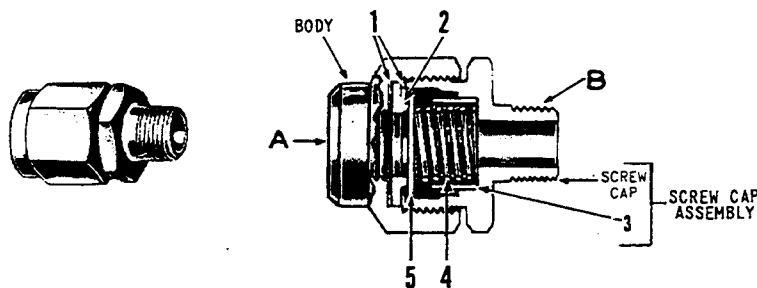
Pc.No. 227703

No.	Pc.No.	Quan.	Description
1	237990	1	BODY
2	238179	2	WASHER
3	237992	1	VALVE SEAT
4	227705	1	SCREW CAP ASSEMBLY
5	237988	1	SCREW CAP
6	237989	1	VALVE STOP BUSHING
7	237994	1	SPRING
8	238197	1	DISC VALVE



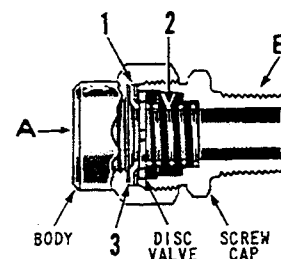


## SINGLE & DOUBLE CHECK VALVES



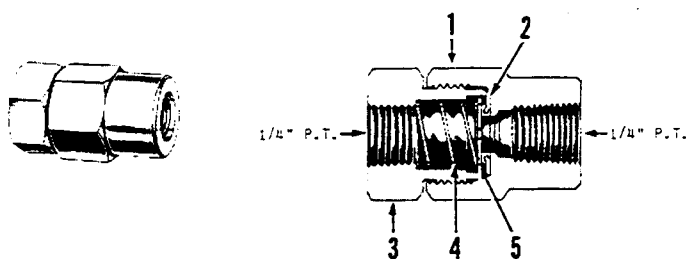
SINGLE CHECK VALVE (Steel Seat)	Body	Screw Cap Assembly	Screw Cap	A PIPE THREAD	B PIPE THREAD
Pc. No.	Pc. No.	Pc. No.	Pc. No.		
227856	238160	227867	238158	3/8"	3/8"
227866	238161	227868	238159	1/2"	1/2"

No.	Pc.No.	Quan.	Description
1	239222	1	WASHER
2	237992	1	VALVE SEAT
See Schedule		1	SCREW CAP ASSEMBLY
See Schedule		1	SCREW CAP
3	237989	1	VALVE STOP BUSHING
4	239263	1	SPRING
5	238197	1	DISC VALVE



SINGLE CHECK VALVE (Brass Seat)	Body	Screw Cap	Disc Valve	A PIPE THREAD	B PIPE THREAD
Pc. No.	Pc. No.	Pc. No.	Pc. No.		
228194	238165	238171	239262	1/2"	1/2"
228195	238164	238170	239262	3/8"	3/8"
229595	238165	238171	239744	1/2"	1/2"

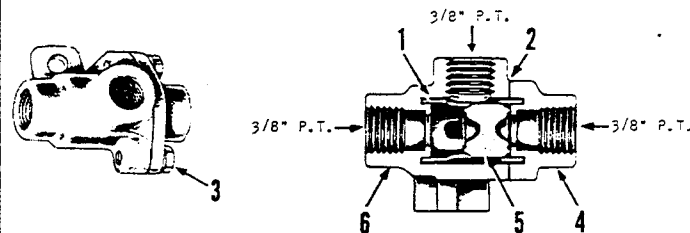
No.	Pc.No.	Quan.	Description
1	239085	1	VALVE SEAT
2	239263	1	SPRING
3	238603	1	WASHER



### SINGLE CHECK VALVE

Pc.No. 226691

No.	Pc.No.	Quan.	Description
1	236742	1	BODY
2	236743	1	VALVE SEAT
3	236746	1	CAP NUT
4	236745	1	SPRING
5	236744	1	DISC VALVE

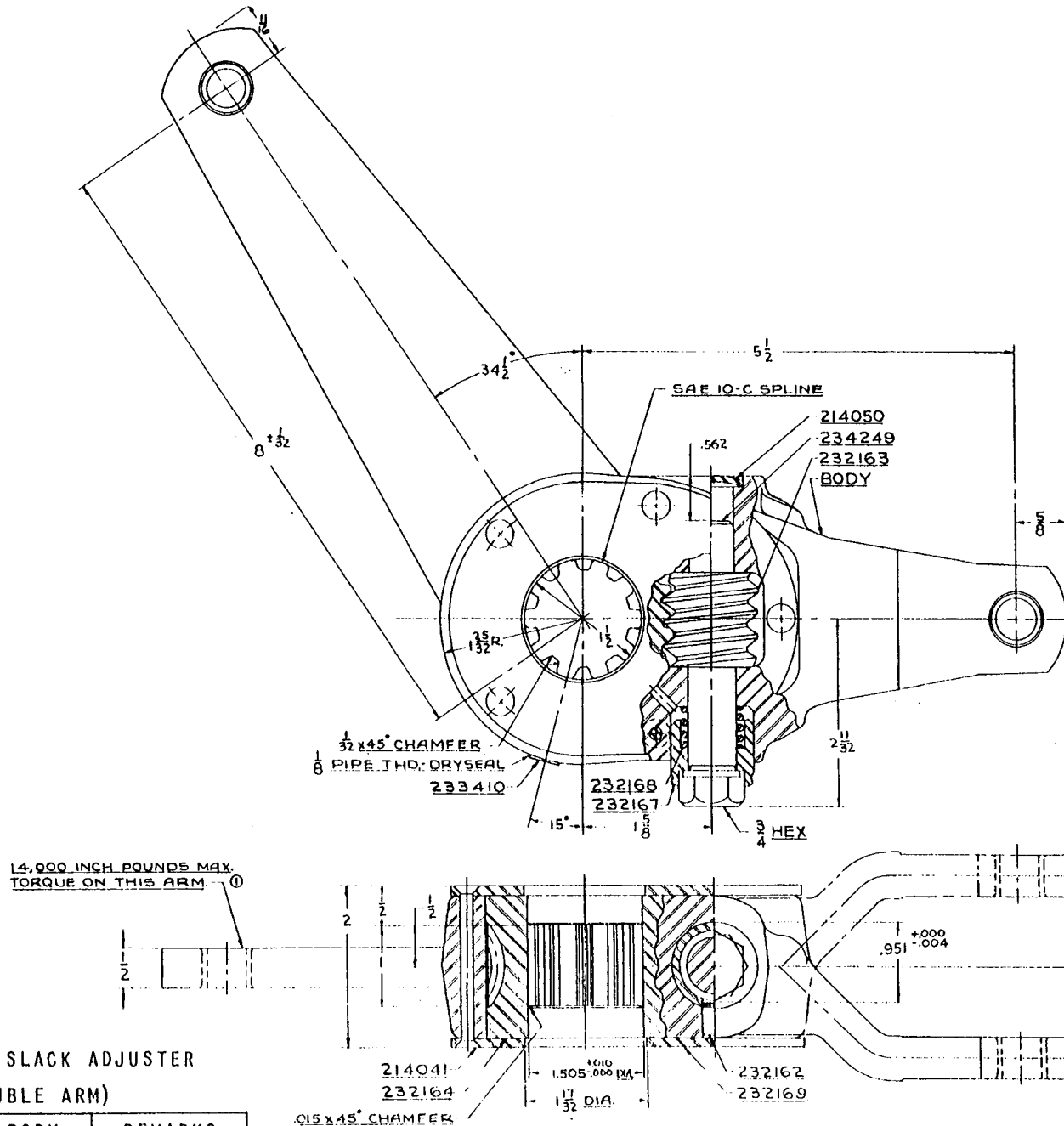


### DOUBLE CHECK VALVE

Pc.No. 229521

No.	Pc.No.	Quan.	Description
1	239949	1	SHUTTLE GUIDE
2	237495	1	GASKET
3	237498	2	MACHINE SCREW & L.W.
4	239673	1	CAP
5	237497	1	SHUTTLE VALVE
6	239672	1	BODY

**Bendix-Westinghouse**  
 AUTOMOTIVE AIR BRAKE CO.  
 ELYRIA, OHIO



PIECE NO.	BODY	REMARKS
276427	241438	AS SHOWN
276428	241439	OPPOSITE

# BENDIX-WESTINGHOUSE

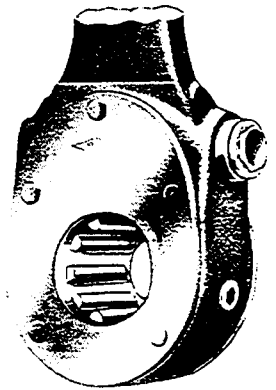
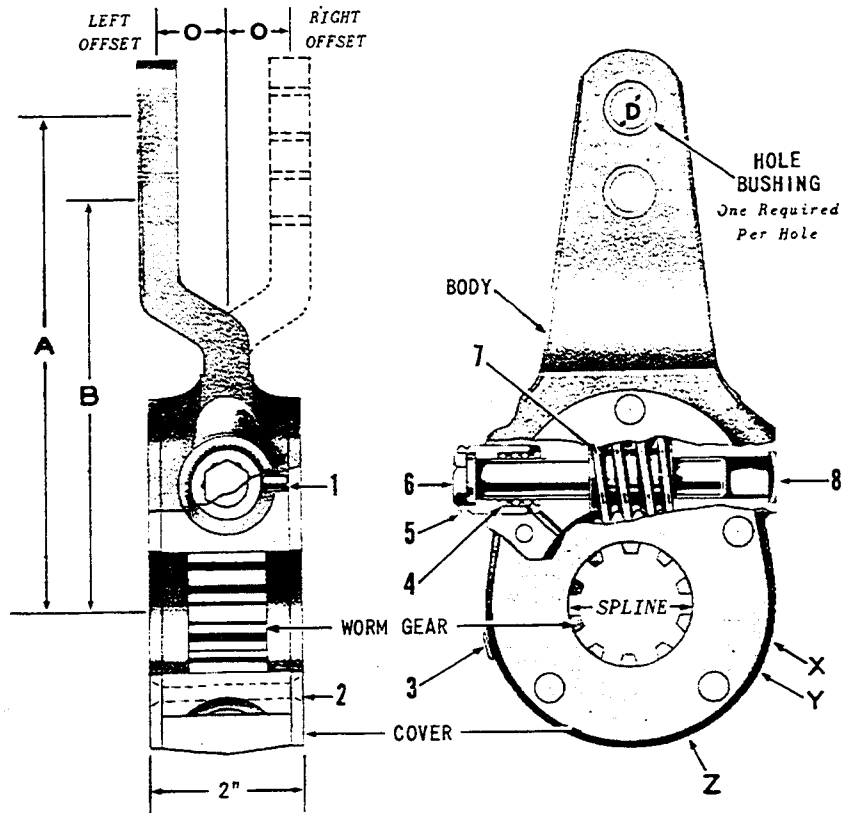
# AUTOMOTIVE AIR BRAKE CO.

GENERAL OFFICES AND PLANT—ELYRIA, OHIO.

BRANCHES—BERKELEY, CALIF. & OKLAHOMA CITY, OKLA.

CATALOG 8-20-1

## TYPE 20 SLACK ADJUSTER OFFSET ARM



No.	Pc.No.	Quan.	Description
1	232162	1	PIN
2	214041	5	RIVET
3	233410	1	PIPE PLUG, 1/8"
4	232168	1	WORM LOCK SPRING
5	232167	1	WORM SHAFT LOCK
6	234249	1	WORM SHAFT
7	232163	1	WORM
8	214050	1	WELCH PLUG

See Schedule on back of Page.

March, 1957

This Catalog supersedes Catalog 8-20-1 printed February, 1956.

## TYPE 20 SLACK ADJUSTER OFFSET ARM

SLACK ADJUSTER	Worm Gear	Cover 2 Req'd.	Hole Bushing 1 Per Hole	D HOLE BUSHING I.D.	Body Left Offset Pc.No.	Body Right Offset Pc.No.	O OFFSET DIM'N.	ARM LENGTH	
								SPLINE CENTER TO HOLE CENTER	
								A 1st Hole	B 2nd Hole
223204	232165	232170	201225	.503"	232271	--	1 1/8"	5"	--
223203		232170	201225	.503"	--	232270	1 1/8"	5"	--
227106		232170	201225	.503"	237319	--	1 1/8"	6"	5"
227105		232170	201225	.503"	--	237320	1 1/8"	6"	5"
	1 1/4" SPLINE								
222971	232164	232169	201225	.503"	232271	--	1 1/8"	5"	--
222970		232169	201225	.503"	--	232270	1 1/8"	5"	--
222961		232169	201225	.503"	232315	--	1 1/2"	5"	--
222960		232169	201225	.503"	--	232314	1 1/2"	5"	--
222959		232169	201225	.503"	232261	--	1 1/2"	5 1/4"	--
222958		232169	201225	.503"	--	232260	1 1/2"	5 1/4"	--
A 223260		232169	201225	.503"	232754	--	1 1/2"	5 1/4"	--
A 223259		232169	201225	.503"	--	232753	1 1/2"	5 1/4"	--
222969		232169	201225	.503"	232269	--	1 1/8"	5 1/2"	--
222968		232169	201225	.503"	--	232268	1 1/8"	5 1/2"	--
223052		232169	201225	.503"	232422	--	1 1/2"	5 1/2"	--
223051		232169	201225	.503"	--	232421	1 1/2"	5 1/2"	--
B 223532		232169	201225	.503"	233039	--	1 1/2"	6"	--
B 223533		232169	201225	.503"	--	233040	1 1/2"	6"	--
C 223477		232169	201225	.503"	232982	--	1 1/2"	6"	--
C 223476		232169	201225	.503"	--	232981	1 1/2"	6"	--
222955		232169	201225	.503"	232257	--	1 1/2"	6"	--
222954		232169	201225	.503"	--	232256	1 1/2"	6"	--
222967		232169	201225	.503"	232267	--	1 1/8"	6"	--
222966		232169	201225	.503"	--	232266	1 1/8"	6"	--
227102		232169	201225	.503"	237319	--	1 1/8"	6"	5"
227101		232169	201225	.503"	--	237320	1 1/8"	6"	5"
222965		232169	201225	.503"	232265	--	1 1/8"	6 1/2"	--
222964		232169	201225	.503"	--	232264	1 1/8"	6 1/2"	--
B 223475		232169	201225	.503"	234749	--	1 1/2"	6 1/2"	--
B 223474		232169	201225	.503"	--	234748	1 1/2"	6 1/2"	--
B 227153		232169	201225	.503"	232980	--	1 1/2"	6 1/2"	--
B 227152		232169	201225	.503"	--	232979	1 1/2"	6 1/2"	--
222953		232169	201225	.503"	232255	--	1 1/2"	6 1/2"	--
222952		232169	201225	.503"	--	232254	1 1/2"	6 1/2"	--
223229		232169	201225	.503"	232710	--	1 1/2"	7"	--
223228		232169	201225	.503"	--	232709	1 1/2"	7"	--
D 223535		232169	201225	.503"	233042	--	1 1/2"	7"	--
D 223534		232169	201225	.503"	--	233041	1 1/2"	7"	--
225466		232169	NONE	--	235246	--	1 1/2"	--	--
225465		232169	NONE	--	--	235245	1 1/2"	--	--
222973		232169	201225	.503"	232273	--	1"	8 1/2"	--
222972		232169	201225	.503"	--	232272	1"	8 1/2"	--

- A - Add one (1) PIPE PLUG, 233410, in Body above Worm Shaft Lock.  
 B - Add one (1) PIPE PLUG, 233410, in position "Z".  
 C - Add one (1) PIPE PLUG, 233410, in position "X".  
 D - Add one (1) PIPE PLUG, 233410, in position "Y".

# CHANGEOVER FROM DELCO TO BENDIX-WESTINGHOUSE HEIGHT CONTROL VALVE

FOR GREYHOUND CORPORATION PD 4501 SCENICRUISER

**INSTALLATION** Read schematic drawing 209439 prior to beginning installation. Lay out material in relation to the schematic and follow notes carefully in making the installation. Note that check valve-filters in supply lines are discarded. Filters in delivery lines are reused. See also Figures 1 through 4.

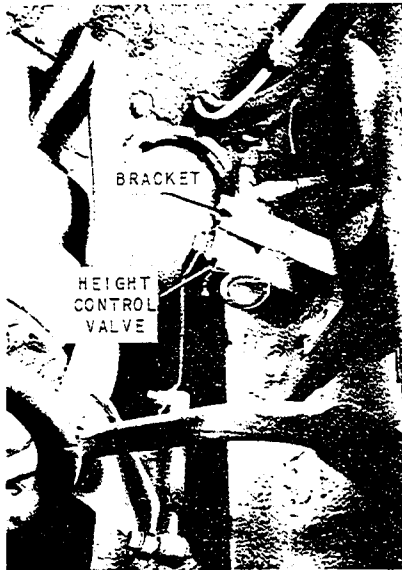


FIGURE 1 - LEFT REAR

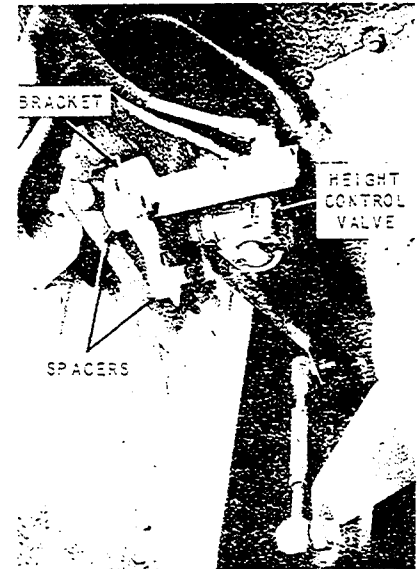


FIGURE 2 - RIGHT REAR

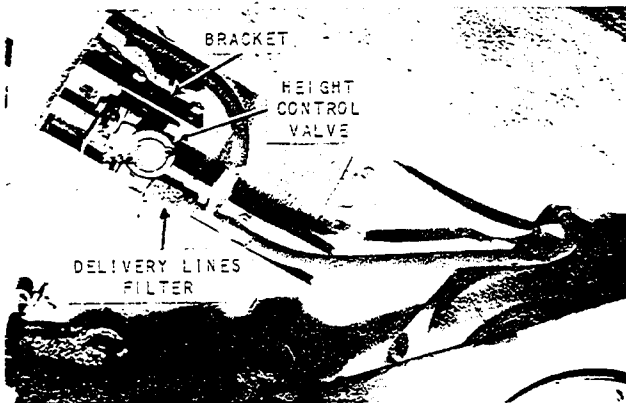


FIGURE 3 - FRONT

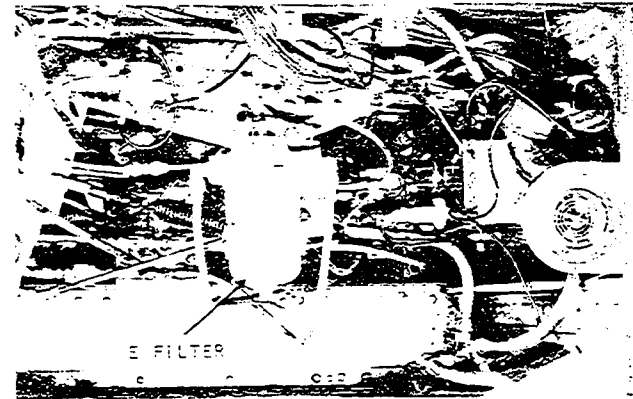


FIGURE 4 - E FILTER

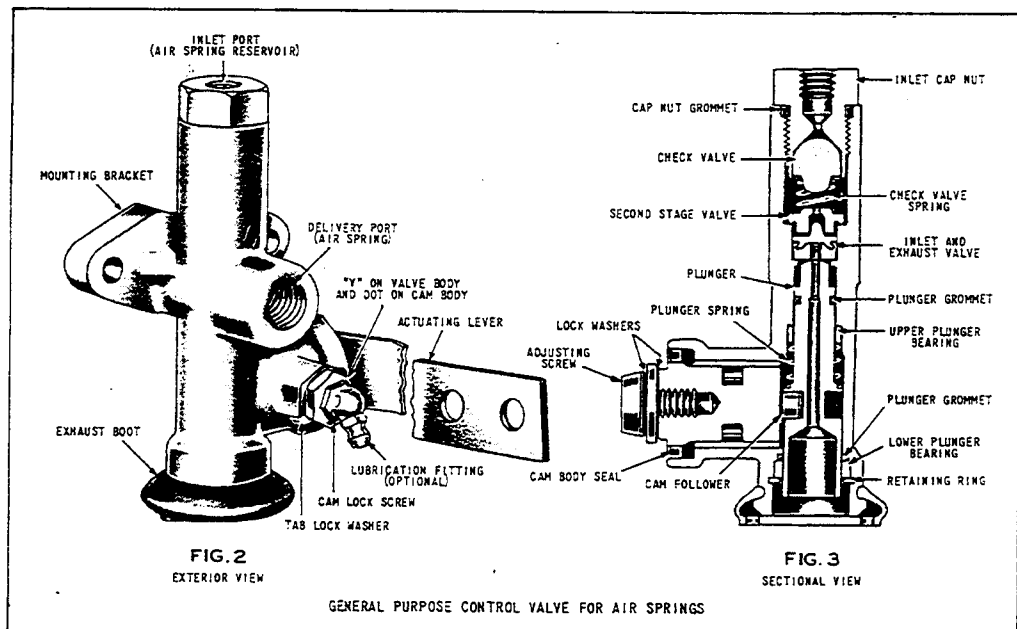
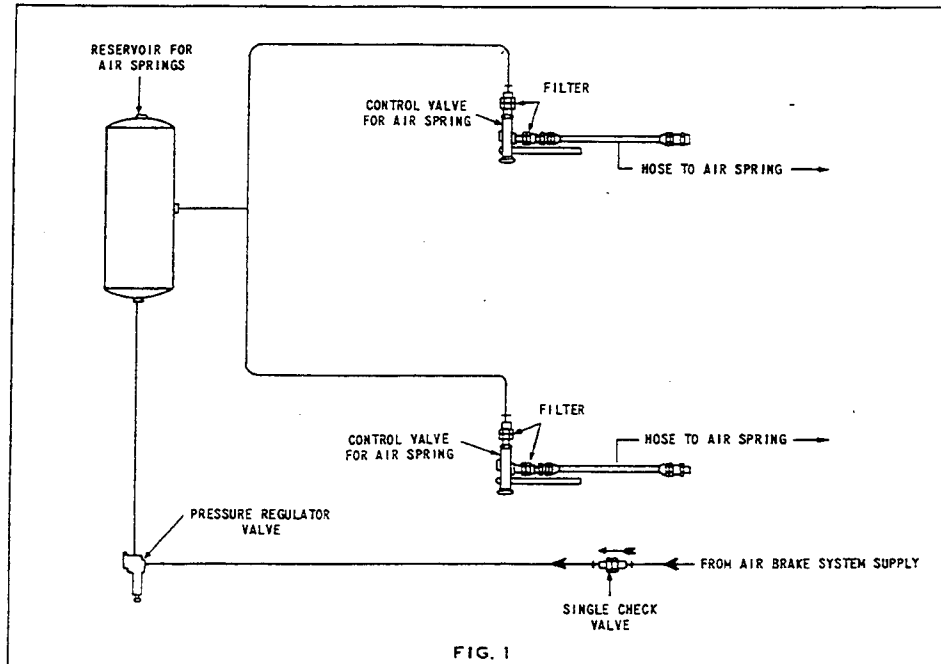
Following installation and adjustment make a leakage check at all connections and valves.

**MAINTENANCE** At about 50,000 miles check E Filter for build up of restricting matter and moisture. Frequency of changing element will vary with operating conditions, humidity, and intervals between draining reservoirs in air system. If necessary, a drain cock can be installed in bottom of E Filter.

For maintenance of height control valves, see SD-25, copy attached. The only difference between the valve shown in this SD and the 229449 is that the 229449 has a single unit, welded actuating lever and cam assembly.

**PARTS INFORMATION** A complete Bill of Material is shown on schematic drawing 209439. Type E Filter is shown on catalog sheet 9-C-2, copy attached.

## CONTROL VALVE FOR AIR SPRINGS GENERAL PURPOSE



### DESCRIPTION

This valve is normally mounted on some member of the vehicle body and its actuating lever is connected through linkage to some point on the axle.

Air pressure from the air spring reservoir normally passes through a filter and then through a line connected to the inlet cap nut in the top of the valve. (Figure 2) Air is delivered to the air spring or exhausted from the air spring by the valve through the port in the side of the valve body to which a connecting hose and filter is installed leading to the air spring. Air supplied to the air spring reservoir from the basic air system normally passes through a pressure regulator valve with an opening pressure of about 65 psi.

When the actuating lever of the valve is in the horizontal or neutral position as shown in Figure 3, the passages through the valve are closed off and are sealed in the air springs. When the actuating lever is moved upward, the valve admits air to the air spring, and when the actuating lever is moved downward, the valve exhausts air from the springs. In this manner, the control valve, as it is subjected to variations in the dimensional relation between vehicle body and axle will compensate for such variations by increasing or decreasing the air pressure in the air spring.

**OPERATION** When the actuating lever is in the position as shown in Figure 3, the inlet and exhaust valve of the control valve are normally in a lap position and air pressure is held at a constant pressure in the air spring. If the lever is moved downward, the cam action moves the plunger downward so that the exhaust seat at its upper end moves away from the exhaust valve and the air pressure in the air spring is reduced as some of the air in the air spring is exhausted through the exhaust drilling in the plunger to atmosphere between the exhaust boot and the base of the control valve. The exhaust capacity is determined by the orifice in the delivery port of the control valve body and the orifice in the plunger. Total exhaust travel of this valve is 5" from the horizontal as measured at the end of the actuating lever arm.

If the lever is moved upward, the cam action moves the plunger upward so that its upper stem seats the inlet and exhaust valve, sealing off the exhaust passage. Since the inlet orifice is of two stage design, as the plunger moves further upward, it unseats the inlet and exhaust valve and air can flow through the bleed hole of the second stage valve, around the inlet and exhaust valve and to the air spring, in the first stage of air supply. Additional upward movement of the lever carries the plunger and inlet and exhaust valve further upward so that the second stage valve is unseated and air can flow around it and to the air spring in the second stage of air supply. Total supply travel of this valve is 5" from the horizontal as measured at the end of the actuating lever. Overtravel of the lever either upward or downward beyond the 5" from the horizontal lever position will damage or shear the nylon cam follower.

**PREVENTIVE MAINTENANCE** Approximately twice each year, depending on operating conditions and experience, filters in supply and delivery lines should be disassembled and cleaned, and the control valves should be lubricated.

### SERVICE CHECK

**OPERATING & LEAKAGE TEST** With vehicle stationary and normal air pressure in the system, check to see that normal undercarriage clearance is maintained at both sides of axle and that there is no leakage at exhaust boots of control valves.

If valve does not function as described above, or if leakage is excessive, it is recommended that the valve be returned to the nearest authorized Bendix - Westinghouse Distributor for a genuine Factory Rebuilt unit under the Repair Exchange Plan. If this is not possible, the following information should prove to be helpful.

### REMOVING AND INSTALLING

**REMOVING** Securely block vehicle body to desired ground clearance.  
Drain air system.  
Disconnect actuating lever from linkage.  
Disconnect supply line and delivery line from control valve.  
Remove screws or bolts from mounting bracket and remove control valve.

**INSTALLING** Install control valve on mounting bracket.  
Connect air lines.  
Build up air pressure in air system and air spring.  
Connect actuating lever to linkage.  
Adjust linkage to hold correct undercarriage clearance.  
Remove blocks under vehicle body.

**DISASSEMBLY** Remove cam lock screw from control valve body and remove actuating lever and cam assembly. Be sure nylon cam lock screw bushing is located and removed. Pry out cam body seal, if necessary, and remove exhaust boot.

Remove inlet cap nut, cap nut grommet, check valve, check valve spring, nylon second stage valve and inlet and exhaust valve in that order.

Carefully press out plunger, exerting force with a ball or smooth faced pin on the exhaust stem of the plunger. Unless the plunger grommet is excessively worn, it will not slide past the upper nylon plunger bearing, however, by exerting a little force, the plunger spring and nylon plunger bearing will slide out together. Too much force will damage the plunger grommet.

Remove retaining ring and lower nylon plunger bearing and plunger grommet.



CLEANING AND INSPECTION OF PARTS

Clean all metal parts in cleaning solvent which is non-injurious to rubber parts. Inspect inlet cap nut for restriction at choke. Clean to original orifice size if necessary.

Inspect rubber valves, grommets, and seal for wear or deterioration and replace as necessary.

Inspect inlet seats for wear or damage.

Inspect seating surface and orifice of nylon second stage valve.

Inspect nylon cam lock screw bushing for excessive wear.

Inspect cam body bushing for excessive wear.

Inspect cam body fit in its bore. It should be a neat sliding fit. Inspect nylon cam follower for excessive wear.

Remove plunger, grommet and with nylon plunger bearings in place, inspect plunger fit in body. It should be a neat sliding fit.

Be sure all chokes and orifices are open. Replace all parts which are excessively worn or damaged.

**ASSEMBLY** Prior to assembly, lubricate grommets, plunger and its bore, cam assembly and its bore with a molybdenum base lubricant such as Liqui-Moly, Moly-Kote or equivalent.

Install new cam body seal in valve body with sealing lips out. A special tool with a  $1/32$ " step is required to insure proper placement of the seal and to prevent damage to the sealing lips. (See sketch)

Install grommet on inlet cap nut.

Install inlet and exhaust valve, nylon second stage valve, check valve spring, check valve and inlet cap nut in that order.

If plunger has been removed, place plunger spring and upper nylon plunger bearing on plunger before replacing plunger grommet and install in valve body as one assembly.

Install cam assembly taking care to align the nylon cam with its slot in the plunger. Align "V" on valve body with dot on cam body to obtain approximate lap position. With cam body in this lap position, assemble lever in horizontal position.

Rotate cam assembly to move plunger upward and install bottom plunger grommet, nylon plunger bearing and retaining ring.

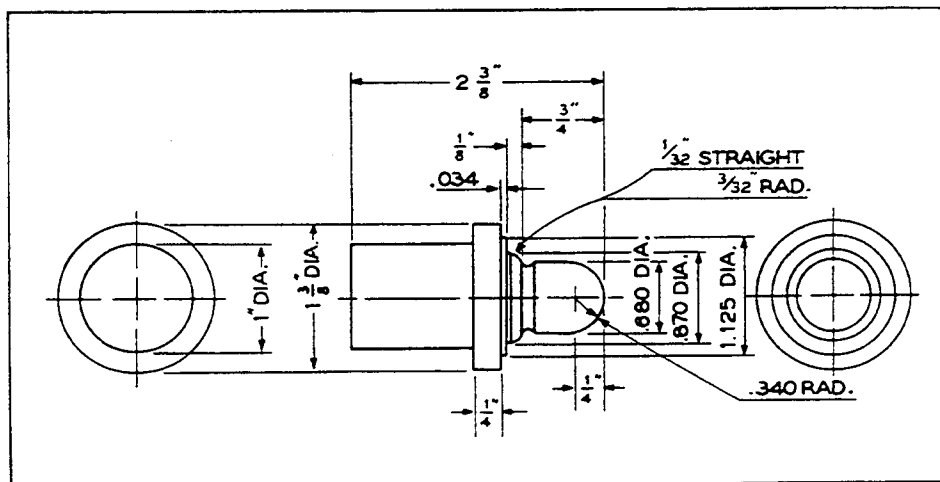
Install lubrication fitting to position most convenient for servicing. Check for easy operation of cam assembly. Replace boot.

Secure lubrication fitting by bending tabs of tab lock screw, two up and one down.

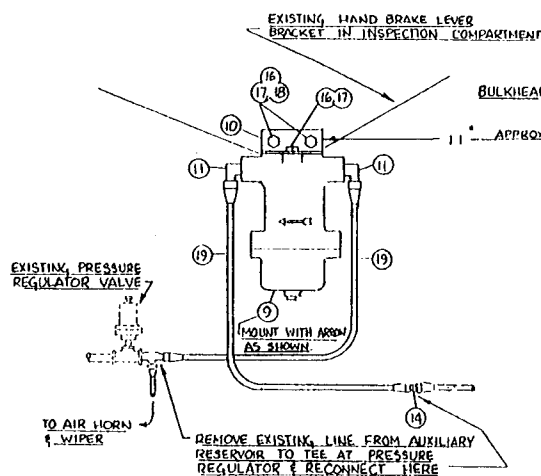
Pressure lubricate through lubrication fitting until grease shows around cam seal.

**TESTING REBUILT UNIT** Perform operating and leakage tests as listed under "Service Check" after rebuilding valve.

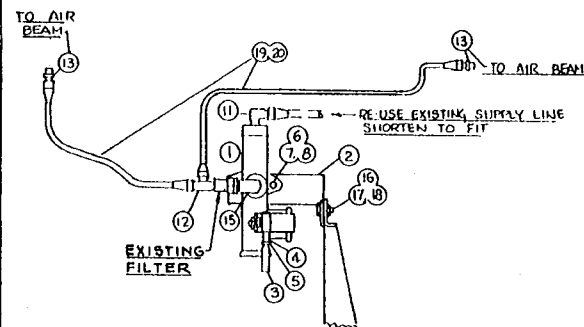
- TOOLS**
1.  $5/8$ " open end wrench  $1/8$ " thick to hold cam body stationary while tightening handle during adjustment.
  2. Spanner wrench to tighten lever retaining screw.
  3. Guide with  $1/32$ " step to assemble and position "U" cup seal in valve body. Can be made locally, if required, from sketch below.



BILL OF MATERIAL		
ITEM	REQD.	DESCRIPTION
1	3	CONTROL VALVE
2	3	MOUNTING BRACKET
3	3	STUD
4	3	BALL JOINT
5	3	$\frac{3}{8}$ -24 THIN HEX NUT
6	6	CAP SCREW ( $\frac{1}{2}$ -28 x $\frac{3}{4}$ )
7	6	$\frac{1}{2}$ -28 HEX NUT
8	6	$\frac{1}{2}$ LOCKWASHER
9	1	TYPE E FILTER
10	1	MOUNTING BRACKET
11	6	FITTING (EL $\frac{1}{2}$ P & $\frac{3}{8}$ T)
12	2	TEE ( $\frac{1}{2}$ P x $\frac{3}{8}$ T x $\frac{3}{8}$ T)
13	4	CONNECTOR ( $\frac{1}{2}$ P & $\frac{3}{8}$ T)
14	1	$\frac{3}{8}$ TUBING UNION
15	3	$\frac{1}{2}$ STREET ELBOW
16	8	CAP SCREW ( $\frac{3}{8}$ -16 x $\frac{3}{4}$ )
17	10	$\frac{3}{8}$ LOCKWASHER
18	8	$\frac{3}{8}$ -16 HEX NUT
19	1	$\frac{3}{8}$ OD COPPER TUBING
20	12	$\frac{3}{8}$ TUBING LOOM
21	2	CAP SCREW ( $\frac{3}{8}$ -16 x $1\frac{1}{2}$ )
22	2	SPACER WASHER
		PIECE NO.
		229449
		240015
		240014
		239488
		211192
		203146
		203147
		202981
		221474
		241443
		205102
		205104
		205053
		205134
		233568
		212122
		202983
		203808
		232568
		204845
		241444



INSTALLATION OF TYPE E FILTER



FRONT LEVELING VALVE

VIEW LOOKING FROM REAR TO FRONT

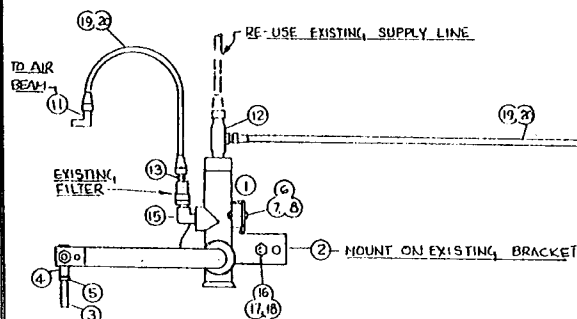
VIEW LOOKING FROM LEFT TO RIGHT

#### INSTALLATION PROCEDURE:

1. REMOVE EXISTING VALVES (WITH ADJUSTING LINK) FROM BRACKETS. (DO NOT REMOVE BRACKETS).
2. REMOVE EXISTING DELIVERY LINES & FITTINGS (INCLUDING FITTINGS IN BEAMS).
3. REMOVE DELIVERY LINE FILTER (BETWEEN VALVE & AIR BEAM) FROM VALVES. CLEAN OR REPLACE FILTER ELEMENTS. REPLACE ALL CURLED HAIR ELEMENTS WITH POROUS BRONZE ELEMENTS. SAVE FILTERS FOR REUSE.
4. REPLACE EXISTING RIGHT HAND THREAD BALL ENDS WITH ③ ④ ⑤ RE-USE REMAINDER OF LINK AFTER CLEANING THREADS. USING EQUAL THREAD ENGAGEMENT AT EACH END OF TURNBUCKLE, ADJUST DISTANCE BETWEEN BALL ENDS TO APPROX. 7 INCHES BEFORE INSTALLING.
5. MOUNT  $\frac{1}{2}$  PIPE VALVES AS SHOWN. USE LOOM ON ALL LEVELING VALVE TUBING.
6. CHARGE AIR SYSTEM, ADJUST VALVES & CHECK FOR LEAKAGE.

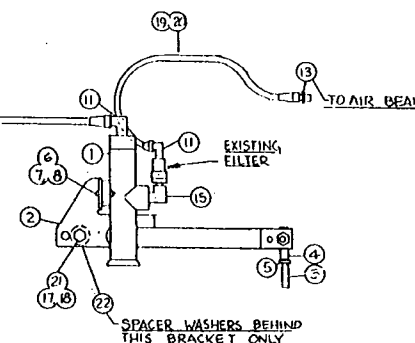
#### LEVELING VALVE ADJUSTMENT PROCEDURE:

1. WITH COACH BODY INITIALLY ABOVE GAGE HEIGHT, SHORTEN LINK UNTIL GAGE HEIGHT IS REACHED; THEN LENGTHEN LINK UNTIL VALVE JUST STOPS EXHAUSTING.



REAR LEVELING VALVES

VIEW LOOKING FROM REAR TO FRONT



**Bondix-Westinghouse**  
AUTOMOTIVE AIR BRAKE COMPANY  
ELYRIA OHIO

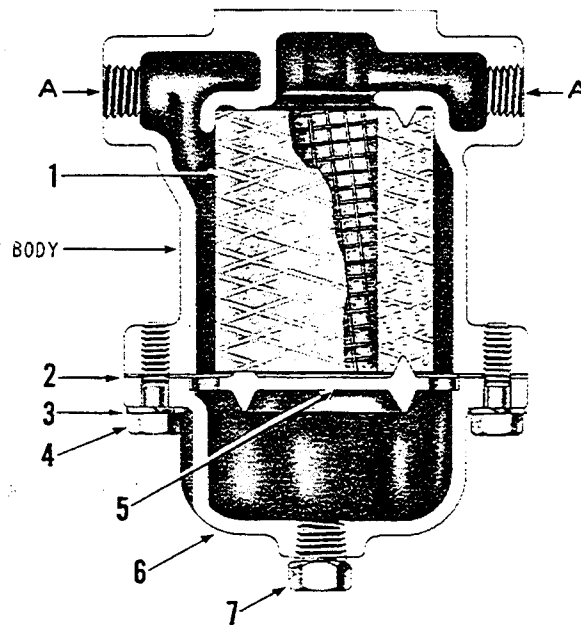
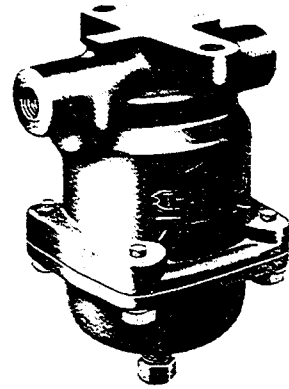
SCHEMATIC OF CONTROL VALVE KIT FOR AIR SPRINGS  
GREYHOUND SCENICRUISER (GHC-PD-4501)

NOTE: USE SEALANT ON ALL PIPE THREADS

209439

209439

## TYPE "E" FILTER

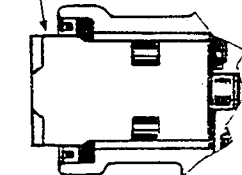


TYPE "E" FILTER Pc. No.	Body Pc. No.	A PIPE THREAD
221474	230107	1/4"
222588	231858	3/8"

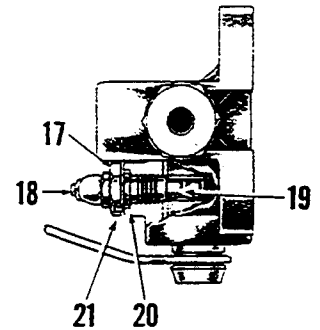
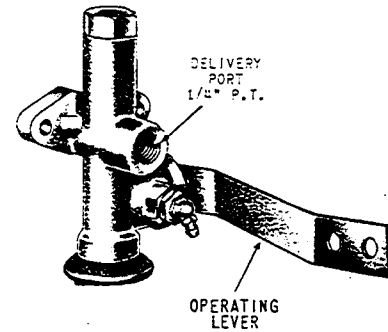
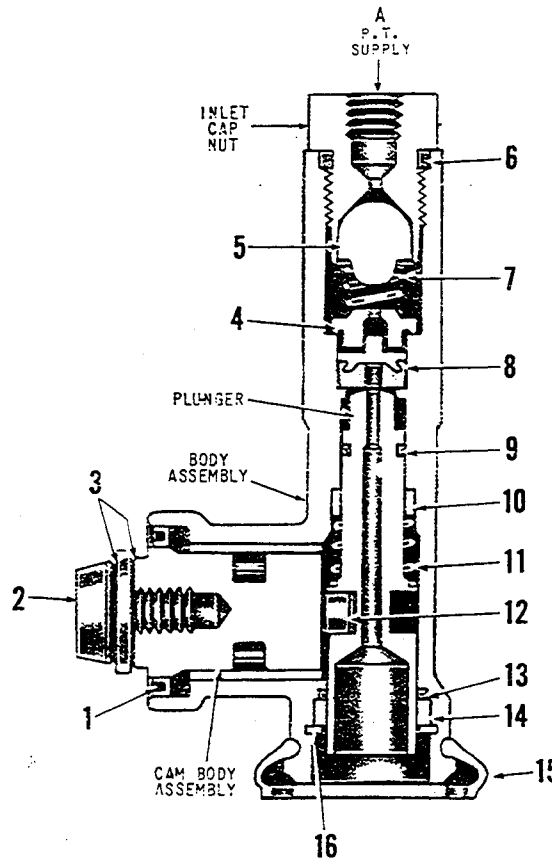
No.	Pc. No.	Quan.	Description
1	221053	1	FILTER ELEMENT
2	230109	1	COVER GASKET
3	202982	4	LOCK WASHER
4	203788	4	CAP SCREW
5	214171	1	STRAINER SUPPORT
6	230108	1	COVER
7	230111	1	PIPE PLUG, 1/4"

## CONTROL VALVE FOR AIR SPRINGS

OPERATING  
LEVER & CAM  
BODY ASSY.



PARTIAL VIEW FOR  
PC. NO'S. 228788 & 229449.



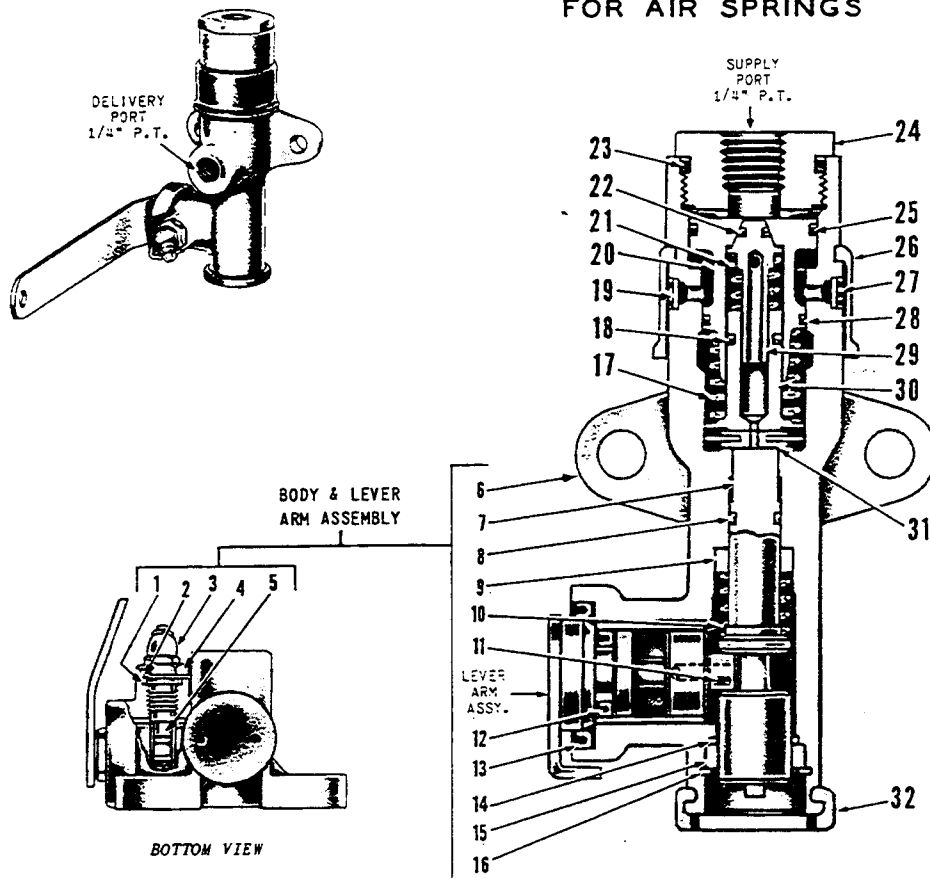
TOP VIEW

CONTROL VALVE FOR AIR SPRINGS Pc.No.	Operating Lever & Cam Body Assy. Pc.No.	Operating Lever Pc.No.	Cam Body Assy. Pc.No.	Body Assy. Pc.No.	Plunger Pc.No.	Inlet Cap Nut Pc.No.	A P.T.	SUPERSEDES CONTROL VALVE FOR AIR SPRINGS Pc.No.
228646	--	238969	228605	228792	238973	238964	1/8"	227396
A 228788	229791	--	--	228869	238973	238964	1/8"	228524
229067	--	238969	228605	228792	239384	238964	1/8"	228454
A 229449	229456	--	--	228792	238973	239662	1/4"	--
229516	--	238969	228605	228792	238973	239662	1/4"	--
275822	--	240946	228605	228792	240959	239662	1/4"	--

A - Omit Items 2 and 3.

No.	Pc.No.	Quan.	Description	No.	Pc.No.	Quan.	Description
1	239090	1	SEAL	12	239140	1	CAM FOLLOWER
2	239041	1	ADJUSTING SCREW	13	239136	1	GROMMET, .754" O.D.
3	239308	2	LOCK WASHER	14	239137	1	PLUNGER BEARING
4	239053	1	SECOND STAGE VALVE	15	239135	1	BOOT
5	241069	1	CHECK VALVE	16	236814	1	RETAINING RING
6	214745	1	GROMMET, .750" O.D.	17	239042	1	CAM LOCK SCREW
7	238954	1	CHECK VALVE SPRING	18	239091	1	LUBRICATION FITTING
8	239052	1	INLET & EXHAUST VALVE	19	239230	1	BUSHING
9	214749	1	GROMMET, .441" O.D.	20	239071	1	LOCK SCREW SEAL
10	239138	1	PLUNGER BEARING	21	239072	1	TAB LOCK WASHER
11	238953	1	PLUNGER SPRING				

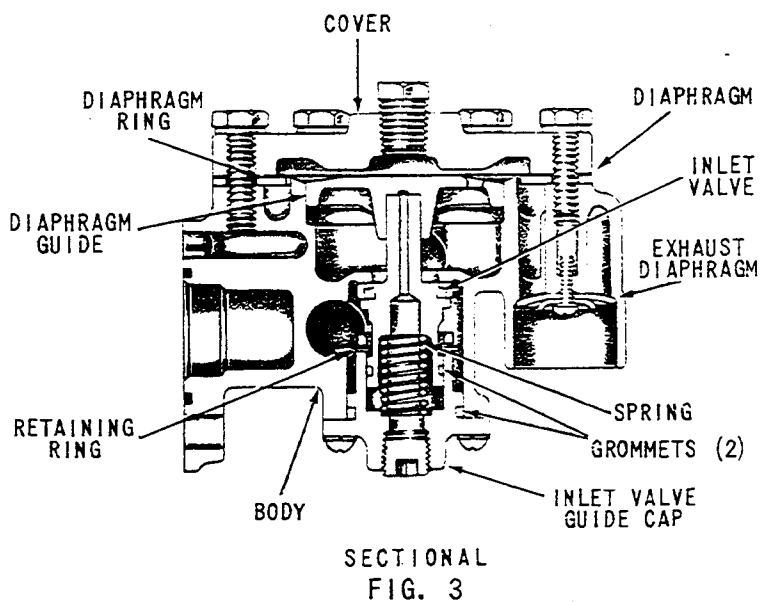
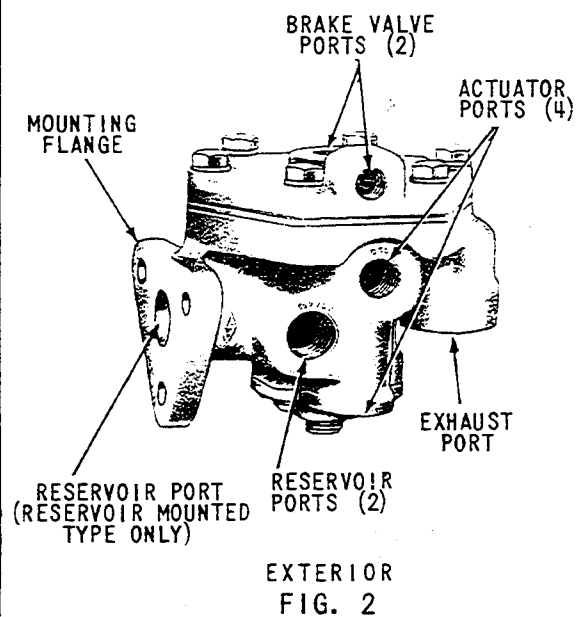
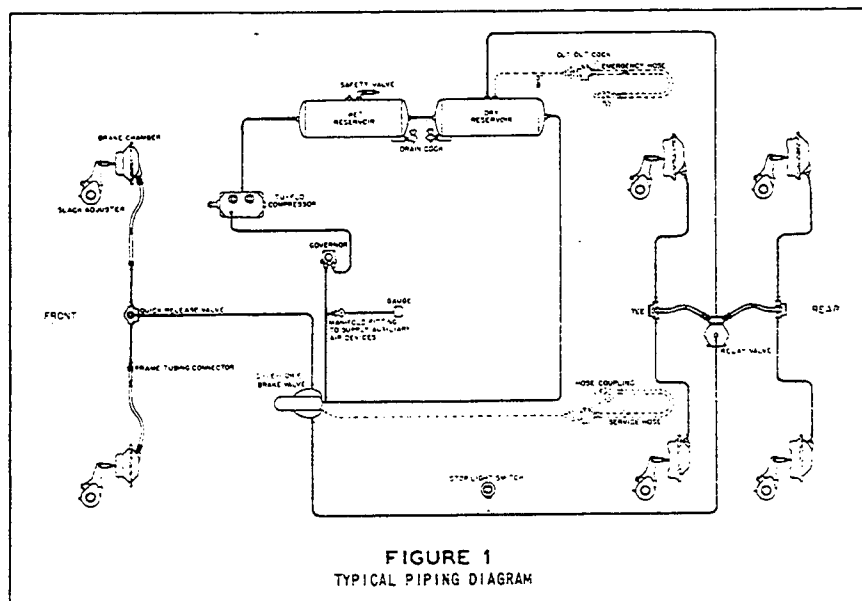
## CONTROL VALVE FOR AIR SPRINGS



CONTROL VALVE FOR AIR SPRINGS Pc.No.	Body & Lever Arm Assembly Pc.No.	Lever Arm Assembly Pc.No.
228634	228653	228635
228654	228655	228656

No.	Pc.No.	Quan.	Description	No.	Pc.No.	Quan.	Description
See Schedule		1	BODY & LEVER ARM ASSEMBLY	17	238414	1	EXHAUST PISTON SPRING
1	239071	1	TAB LOCK SCREW SEAL	18	214749	1	GROMMET, .441" O.D.
2	239072	1	TAB LOCK WASHER	19	238422	1	EXHAUST FILTER
3	239091	1	LUBRICATION FITTING	20	238411	1	EXHAUST PISTON
4	239042	1	CAM LOCK SCREW	21	238410	1	CHECK VALVE SPRING
5	239230	1	BUSHING	22	236640	1	GROMMET, .298" O.D.
6	228712	1	BODY ASSEMBLY	23	214398	1	GROMMET, 1.156" O.D.
7	238999	1	PLUNGER	24	238415	1	SUPPLY CAP NUT
8	214749	1	GROMMET, .441" O.D.	25	238413	1	GROMMET, 1.004" O.D.
9	239138	1	PLUNGER BEARING	26	238424	1	BOOT
10	238418	1	PLUNGER SPRING	27	238423	1	FILTER RETAINER
11	239140	1	CAM FOLLOWER	28	238412	1	GROMMET, .816" O.D.
See Schedule		1	LEVER ARM ASSEMBLY	29	238409	1	CHECK VALVE
12	239073	1	CAM "U" CUP	30	238785	1	INLET & EXHAUST VALVE FOLLOWER
13	239090	1	SEAL	31	238783	1	INLET & EXHAUST VALVE
14	239136	1	BEARING GROMMET	32	239078	1	DUST CAP
15	239137	1	PLUNGER BEARING				
16	236814	1	RETAINING RING				

## R-5 RELAY VALVE



## DESCRIPTION

**DESCRIPTION** The R-5 Relay Valve is normally used to operate the brakes on the rear axle or axles of six-wheel air braked tractors or trucks and long-wheel based tractors, trucks and coaches. The valve is operated by the brake valve and delivers the same air pressure to the brake actuators as is being delivered to the relay valve by the brake valve. Because the valve has a direct air supply as noted in Figure 1, it operates as a high capacity remote controlled brake valve.

The R-5 Relay Valve features an option of two service ports, one at the top and one at the side of the diaphragm cover. It also has four brake chamber ports. The reservoir mounted type R-5 Relay Valve has three reservoir supply ports. The type for remote mounting has two reservoir supply ports. The type for reservoir mounting is adaptable to reservoirs with mounting flanges or pipe nipples.

**OPERATION** When the brake valve is applied, air pressure is delivered to the relay valve and enters the relatively small cavity above the relay diaphragm. The pressure developed depresses the diaphragm and seals off the exhaust seat. At the same time, it moves the diaphragm guide down and opens the inlet valve permitting air to flow from the reservoir through the relay valve and to the brake chambers. As the air pressure below the relay diaphragm equals that above the diaphragm, the inlet valve returns to its seat (Balanced Condition) and the brake application is held at whatever pressure the operator desires. The relief slot in the bottom of the diaphragm guide permits air pressure to enter the cavity below the inlet valve piston through the drilled hole in the valve stem thus assuring a positive balance of pressure above and below the relay diaphragm. When the brake valve is released, the air pressure in the cavity above the diaphragm and the connecting line is exhausted through the exhaust port of the brake valve. When this occurs, the air pressure below the diaphragm moves the follower and diaphragm up and opens the exhaust passage in the relay. With the exhaust passage open, the air pressure in the brake actuators exhausts back through the relay valve exhaust port.

**PREVENTIVE MAINTENANCE** Once each year the relay valve should be disassembled and cleaned. All rubber parts and parts subject to wear should be replaced if worn or damaged.

### OPERATING AND LEAKAGE TEST

1. Fully charge air brake system.
2. Make several brake applications and check for prompt application and release at all wheels.
3. With the brake valve in a fully released position, coat the exhaust port of the subject valve with soap suds. A maximum leakage of a one inch soap bubble in not less than three seconds is permissible.
4. Make and hold a brake application and coat the exhaust port of the relay valve with soap suds. A maximum leakage of a one inch soap bubble in not less than two seconds is permissible.
5. If the valve does not function as described above, or if leakage is excessive, it is recommended that the relay valve be returned to the nearest Authorized Bendix-Westinghouse Distributor for a genuine Factory Rebuilt unit under the Repair Exchange Plan. If this is not possible, the following information should prove helpful.

### REMOVING AND INSTALLING

**REMOVING** Block or hold vehicle by a means other than air brakes.  
Open drain cocks and exhaust air pressure from the air brake system.  
Disconnect air lines from the R-5 Relay Valve.  
Loosen mounting bolts and remove subject valve.

**NOTE:** If local facilities are available, the valve assembly generally referred to as the R-5 Insert can be readily removed and serviced and/or replaced by removing the four screws on the bottom cover plate and then pulling insert down. This can normally be accomplished without disturbing the valve mounting or connecting air lines.

**INSTALLING** Clean or replace lines to the relay valve.  
Mount relay and replace all damaged air lines.  
Test valve for serviceability as outlined in Operating and Leakage Test.

**NOTE:** When installing the new or rebuilt R-5 Insert, precautions should be taken to prevent nicking of the inlet valve and grommets. After placing the inlet valve assembly in the relay body, depress the valve cover and tighten the four screws.

**DISASSEMBLY** Remove the six cap screws and relay diaphragm cover.  
Remove relay diaphragm.  
Remove relay diaphragm ring.  
Remove diaphragm follower guide.  
(R-5 Insert) Remove the four screws from the insert cover plate.  
Pull insert assembly down and out of relay body.  
Depress inlet valve stem in cover.  
With stem depressed, remove valve stem retaining ring, "using care to avoid damaging the grommets and guide surfaces."  
Remove spring from insert valve cover plate.  
(Exhaust Diaphragm) Remove screw and washer.  
Remove diaphragm.

## CLEANING AND INSPECTION

Wash all metal parts in cleaning solvent and dry them thoroughly.  
Inspect all parts for excessive wear or deterioration.  
Inspect springs for cracks, distortion or corrosion.  
Inspect valve and valve seat for nicks and burrs.  
Replace all parts not considered serviceable during this inspection.  
Inspect both relay and exhaust diaphragms for flexibility, wear, and deterioration.  
Inspect relay diaphragm seat for nicks and burrs.

## ASSEMBLY

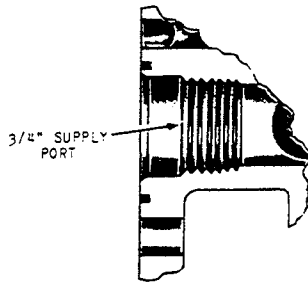
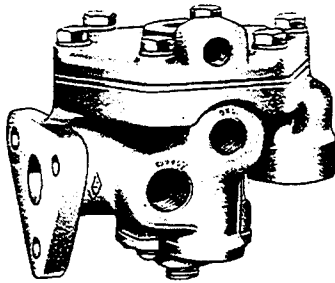
Prior to assembly, lubricate lightly the relay diaphragm guide bore and all grommets with Bendix-Westinghouse lubricant, piece number 240176.  
(R-5 Insert) Put spring in inlet valve cover plate.  
Place inlet valve over the spring.  
Depress inlet valve stem in cover.  
With stem depressed, install the retaining ring.  
Install the preassembled inlet valve assembly in the relay body, following the precautions described in Installation section and tighten the four screws.  
Replace diaphragm guide in body.  
Replace diaphragm ring in body.  
Place relay diaphragm on diaphragm ring.  
Reset relay diaphragm cover and tighten the six cap screws.  
(Exhaust Diaphragm) Place exhaust diaphragm in port.  
Place washer on top of diaphragm.  
Position and tighten screw.

## TESTING REBUILT RELAY VALVE

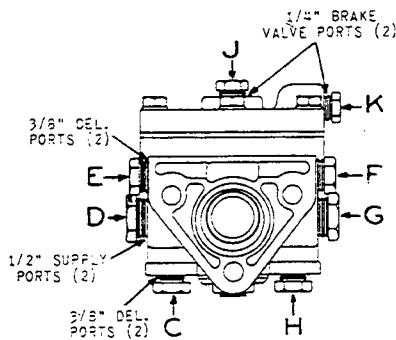
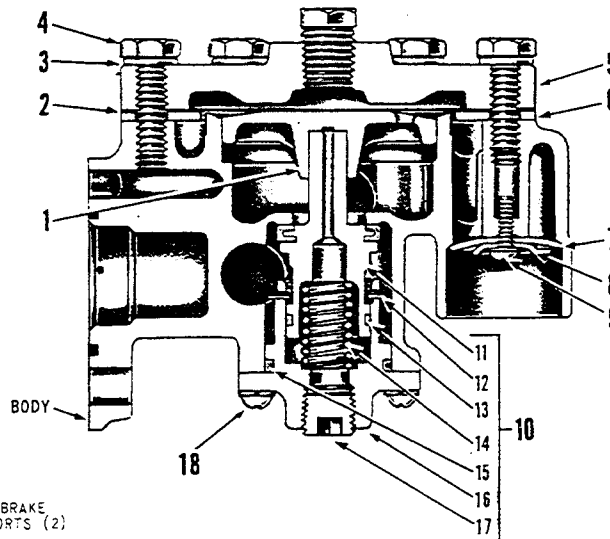
Perform Operating and Leakage Check as outlined in the previous section.



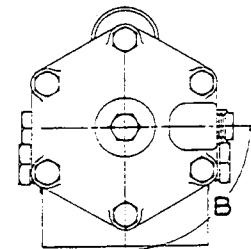
## RELAY VALVE TYPE R-5



VIEW OF PC. NO. 229467



FLANGE VIEW



TOP VIEW

R-5 Relay VALVE Pc. No.	Body Pc. No.	B DEGREES B.V. PORT ANGLE	PIPE PLUGS							
			C	D	E	F	G	H	J	K
229200	239570	90	238807	238822	--	--	--	238807	--	230111
229467*	239596	90	--	238822	--	--	238822	--	--	--
275146	239570	270	238807	--	--	--	238822	238807	230111	--
275147	239570	90	238807	238822	--	--	--	238807	230111	--

\*THIS VALVE WILL COVER SERVICE, REPAIR EXCHANGE & CONVERSION FROM ANY BW RELAY VALVE.

No. Pc.No. Quan. Description

1	239575	1	DIAPHRAGM GUIDE
2	240372	1	DIAPHRAGM
3	232850	6	WASHER
4	203788	6	CAP SCREW
5	239597	1	COVER
6	240373	1	DIAPHRAGM RING
7	239942	1	EXHAUST DIAPHRAGM
8	239943	1	DIAPHRAGM WASHER
9	237275	1	MACHINE SCREW & L.W.

No. Pc.No. Quan. Description

10	229596	1	INLET VALVE & GUIDE CAP ASSY.
11	239881	1	INLET VALVE
12	239712	1	RETAINING RING
13	239745	1	GROMMET, .809" O.D.
14	239573	1	SPRING
15	239743	1	GROMMET, 1.215" O.D.
16	239571	1	VALVE GUIDE CAP
17	230576	1	PIPE PLUG, 1/4"
18	237275	4	MACHINE SCREW & L.W.

### DESCRIPTION and OPERATION

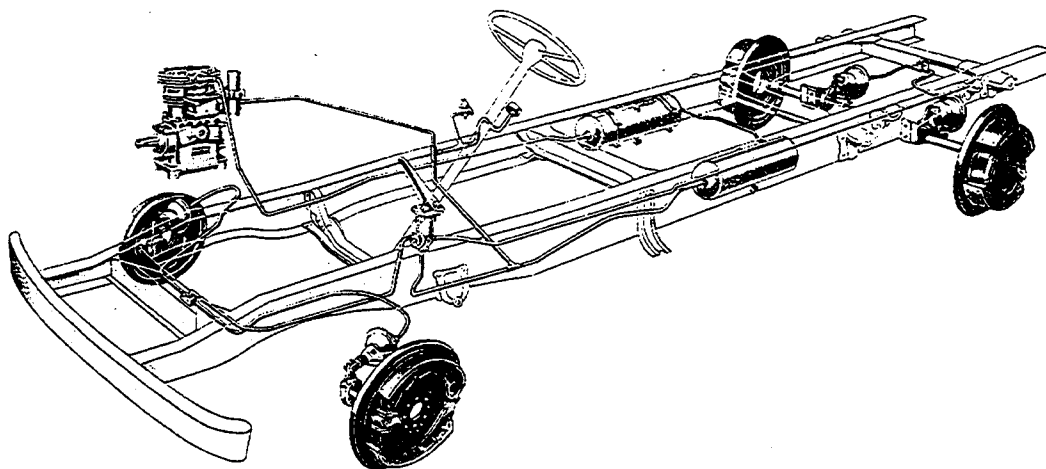


FIG. 1—Piping Diagram of Air Brake System With Type E-1 Brake Valve

### DESCRIPTION

**General.** Brake valves have either a foot treadle for operating them or they are fitted with a lever suitable for connecting to a conventional brake pedal. Movement of the treadle or brake pedal controls the movement of an inlet valve and exhaust valve which in turn control the air pressure being delivered to or released from the brake actuators on the vehicle. To fully apply the brakes, the treadle or brake pedal must be fully depressed, whereas, when the treadle or brake pedal is only partially depressed, correspondingly less braking force is developed. In other words, the farther the driver depresses the treadle or brake pedal, the greater the air pressure delivered to the brake actuators. At any time the brakes of the vehicle may be partially released by the driver permitting the treadle or brake pedal to partially return towards released position or they may be entirely released by permitting the treadle to return to full released position. In this manner the amount of force being applied to the brakes of the vehicle is always under control of the driver.

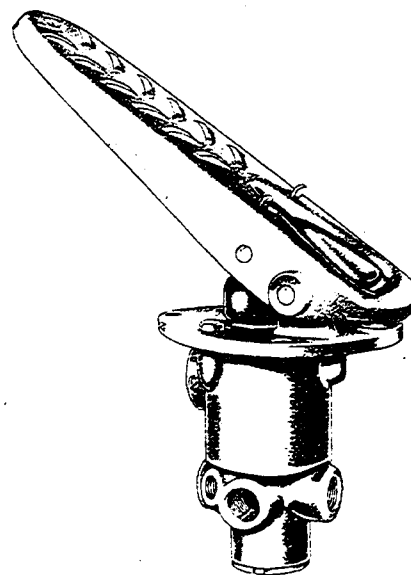


FIG. 2—Type E-1 Brake Valve With Treadle and Mounting Plate

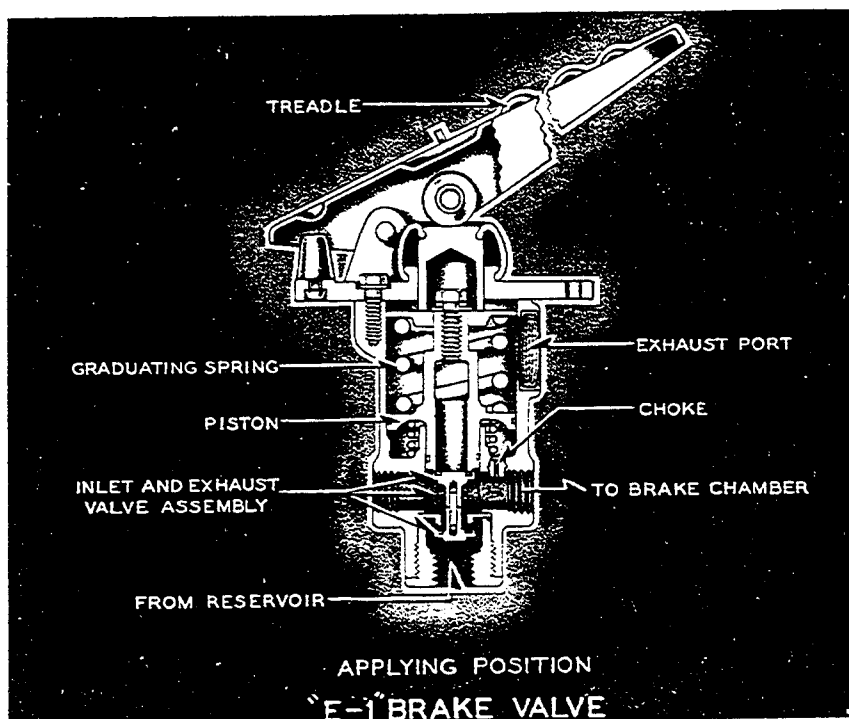


FIG. 3—Applying Position—E-1 Brake Valve

## OPERATION

**Applying.** As the driver depresses the treadle or pedal, force is exerted on the pressure regulating spring and piston. As the piston moves downward, the exhaust valve seat moves downward, contacting the inlet-exhaust valve and closing the exhaust valve. Continued movement of the piston downward forces the inlet valve off its seat. Air pressure from the reservoir then flows through the inlet valve and out the brake chamber ports to the brake actuators, applying the brakes.

**Balanced.** When the air pressure being delivered to the brake chambers from the cavity below the piston overcomes the mechanical force being exerted on top of the piston, the piston lifts slightly and the inlet valve closes, cutting off further supply of air pressure to the brake chambers. The exhaust valve remains closed, preventing any escape of air pressure through the exhaust port. Should the driver depress the treadle further exerting additional force on top of the piston, a corresponding increase in the air pressure being delivered to the brake actuators is produced.

If the driver permits the treadle or pedal to partially return toward its fully released position, reducing the mechanical force on top of the piston, the air pressure below the piston overcomes the mechanical force on top of it and the piston lifts still further. When this happens, the inlet valve remains closed but the exhaust valve opens to exhaust air pressure from the brake actuators until the air pressure below the piston again balances the mechanical force on top of it.

**Releasing.** If the driver permits the treadle or pedal to return to its fully released position, the exhaust valve opens and all air pressure in the brake actuators is exhausted and the brakes on the vehicle are fully released.

If the driver depresses the treadle or pedal to fully applied position, the pressure regulating spring is compressed and the piston strikes its guide in the body. Under these conditions, the inlet valve is held open, permitting full reservoir pressure to pass through the brake valve into the brake actuators, which creates a very severe brake application.



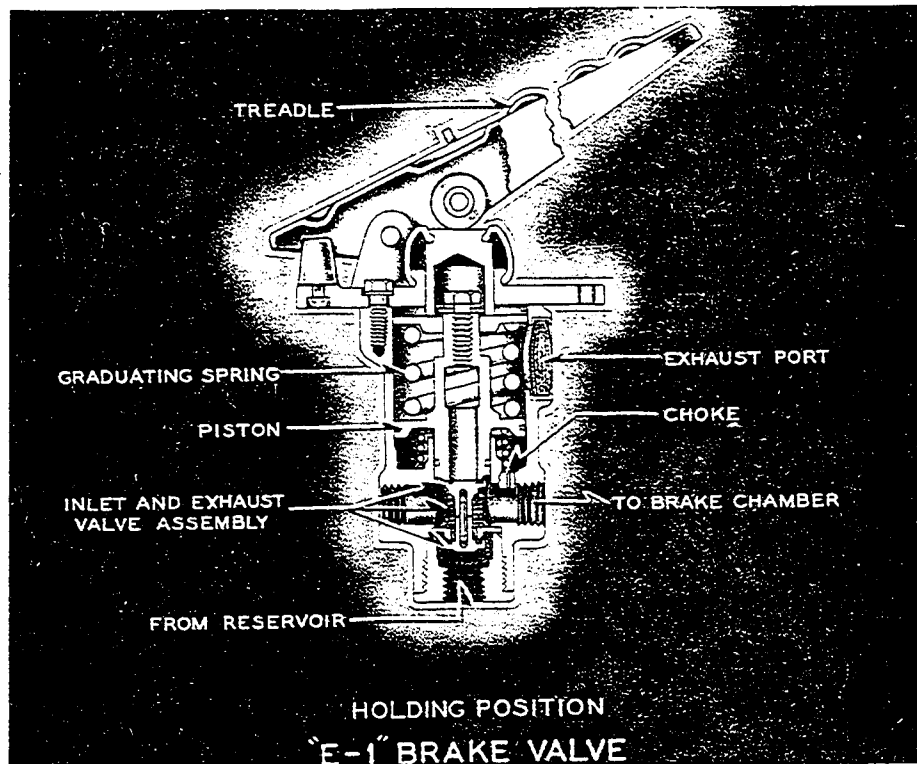


FIG. 4—Balanced Position—E-1 Brake Valve

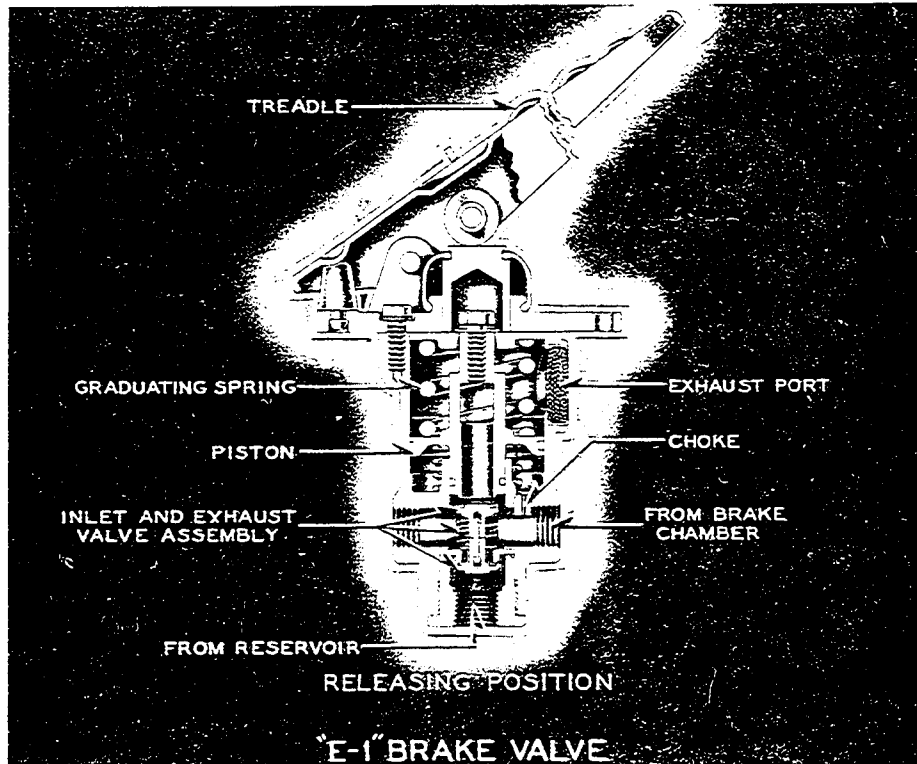


FIG. 5—Releasing Position—E-1 Brake Valve



## **PREVENTATIVE MAINTENANCE**

### **Every 200 Operating Hours or After Each 5000 Miles.**

Lubricate treadle or lever roller, also hinge pin and linkage with engine oil.

Lift boot away from mounting plate and put a few drops of SAE 20 engine oil between mounting plate and plunger. Install boot on mounting plate.

Lever type brake valve only. Check to be sure that with brakes fully applied the pedal contacts the floor boards or pedal stop. With brakes released check to

be sure that the lever arm on the brake valve contacts the stop button on the brake valve. Adjust the pedal linkage, if necessary, to provide for this. After any adjustment, check the brake valve delivery pressure.

Clean exhaust strainer often enough, depending on service conditions, to avoid restriction.

### **Every 3000 Operating Hours or After Each 100,000 Miles.**

Disassemble brake valve and clean all parts. Install new inlet-exhaust valve and piston grommets.

## **SERVICE CHECK**

### **Operating Tests.**

Check the delivery pressure of brake valve, using an accurate air pressure test gauge. If the vehicle has trailer connections, the test gauge can be conveniently connected to the service line outlet at the rear of the vehicle. With the treadle or pedal fully depressed, the brake valve should deliver approximately full reservoir pressure as registered by the dash gauge. On some vehicles a stop is arranged so as to prevent the brake valve delivering full reservoir pressure. This arrangement should not be altered on such vehicles unless it is necessary to do so in order to correct the maximum delivery pressure.

Depress the brake pedal to several positions between fully released position and fully applied position and check to be sure the delivered air pressure registered by the test gauge varies in accordance with the position in which the treadle is held. The brake valve

must control all delivery pressures between 5 and 75 pounds.

There is no treadle release stop adjustment for the treadle type and other type E-1 valves using the rubber stop button. For those E-1 valves which have an adjusting screw and lock nut at the lever stop, adjustment should be made to keep the roller in contact with the plunger when the valve is in fully released position.

### **Leakage Tests.**

With the treadle fully released, coat the exhaust port with soap suds to check for leakage.

Leakage in excess of a one-inch soap bubble in one second is not permissible in either of these tests. If excessive leakage is found, the brake valve must be repaired or replaced.

## **REMOVING AND INSTALLING**

If it is necessary to remove or install the brake valve, the following procedure will apply:

### **REMOVING**

- Drain air brake system.
- Disconnect air lines at brake valve.
- Disconnect pedal rod for lever type valves.
- Remove mounting bolts, and remove brake valve.

### **INSTALLING**

- Mount brake valve in position. Connect pedal rod on lever type brake valves.
- Connect air lines to brake valve.
- Be sure exhaust port is not plugged.
- Test brake valve for service.



## DISASSEMBLY

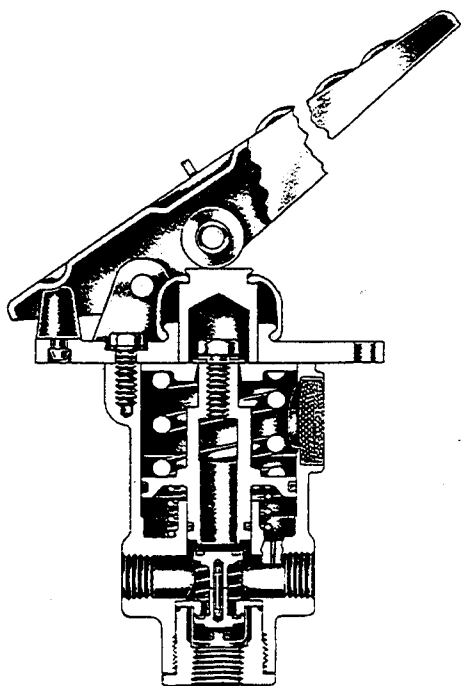


FIG. 6—Sectional View of Type E-1 Brake Valve

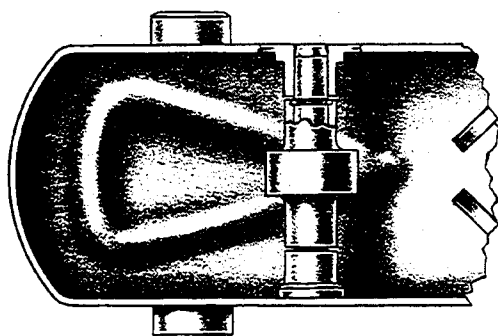


FIG. 8—Sectional View of Treadle Assembly for E-1 Brake Valve

### GENERAL

Remove all dirt and grease from exterior of valve, using cleaning solvent and a brush. Inspect exterior of valve for broken or damaged parts. All broken or damaged parts must be replaced.

### TYPE E-1 BRAKE VALVE

**Remove and Disassemble Treadle (or lever).**

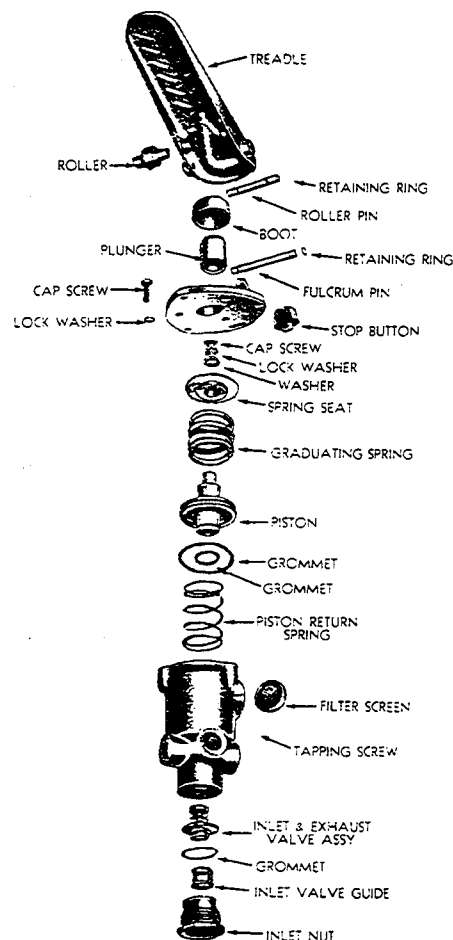


FIG. 7—Exploded View of Type E-1 Brake Valve

Drive out treadle pin and remove treadle. If treadle roller is to be removed, drive out treadle roller pin by using a drift pin and a small hammer. Then remove roller and retaining ring. (Fig. 8.) Both the treadle pin and treadle roller pin are held in place by retaining rings. In lever type valves cotter pins are used to retain both pins.

## DISASSEMBLY (Cont'd)

**Remove Mounting Plate.** Remove boot. Remove three cap screws and lock washers attaching mounting plate to body. Lift off mounting plate.

Remove piston and spring assembly from body.

Remove rubber grommets from piston.

Do not disassemble the pressure regulating spring and piston assembly unless the exhaust seat has been damaged and has to be replaced.

Remove piston return spring from body.

Remove inlet cap nut from body. (Fig. 7). Remove inlet valve guide and inlet and exhaust valve assembly.

## CLEANING AND INSPECTION OF PARTS

### BRAKE VALVE TYPE E-1

**Clean All Parts.** Wash all metal parts in cleaning solvent.

**Pressure Regulating Spring and Piston Assembly.** Carefully inspect the exhaust seat. If seat is worn slightly, lap on a piece of crocus cloth on a flat surface. If seat is worn excessively, or damaged in any way, the piston and pressure regulating spring assembly must be replaced. Inspect outside surfaces of piston which contact bores in body of valve for scratches, nicks or out-of-round condition. Replace piston if necessary. If pressure regulating spring is damaged in any way, it must be replaced.

Replace rubber grommets with new ones.

**Treadle Assembly.** Check fit of treadle pin in treadle and mounting plate. Pin must be a neat free fit. If mounting plate holes are worn excessively, the plate

should be replaced. Inspect treadle roller for fit on roller pin, also for flat spots. Roller must be a free rolling fit on pin. If excessive wear is found or if the roller has any flat spots, the pin, the roller, or both, must be replaced. Check to be sure the stop on the heel of the treadle is in good condition. If not, the treadle should be replaced.

**Mounting Plate.** Check for cracks or breakage. Replace if necessary. Replace stop button.

**Boot.** Replace if cracked or deteriorated.

**Body.** Inspect the body for scores and excessive wear where the piston contacts the body. If excessive wear, or grooves, are found, the body should be replaced. Inspect small bleed hole leading to piston cavity in body to be sure it is open and not obstructed.

**Inlet and Exhaust Valve.** Replace inlet and exhaust valve assembly if valves or seats are worn or damaged.

## REPAIRS

### TYPE E-1

**Pressure Regulating Spring and Piston Assembly.** If the piston graduating spring, or graduating spring seat, is damaged or broken, they should be replaced.

Care should be exercised not to damage the exhaust seat which is a part of the piston.

Replace all grommets with new ones.

If exhaust seat is slightly damaged, it may be lapped flat with a piece of crocus cloth on a flat surface.

**Body.** If piston bore is nicked or worn excessively, replace body.

**Inlet and Exhaust Valve.** Replace old valve with new.

Inlet-exhaust valve assemblies must be tested for leakage after they are installed in the brake valve.



## ASSEMBLY

Install new grommets on piston. Lubricate the piston grommets, piston and piston bore with barium grease. Install piston return spring and piston and spring assembly in body.

Install mounting plate and secure in place with the three cap screws and lock washers.

Install plunger and boot in the mounting plate.

Position treadle or lever on mounting plate after placing retaining ring in recess of treadle boss. Drive treadle pin to position where it is locked in place by retaining ring.

To install the roller, place the retaining ring in the recessed end of the roller and place the roller and retaining ring in the treadle. Then drive the roller pin in from either side of the treadle to the position where the pin is locked in place by the retaining ring. (See Fig. 8.) Some E-1 valves differ slightly in design and cotter pins retain the roller pins and lever pins.

Install inlet and exhaust valve assembly after positioning guide on the inlet valve seat. Place new grommet under inlet valve seat and install inlet cap nut.

## TESTING and ADJUSTING REBUILT BRAKE VALVE

### TYPE E-1

#### TESTS

If facilities are available, the rebuilt brake valve can be tested on a suitable test rack. If such facilities are not available, the brake valve can be tested on the vehicle.

Both operating tests and leakage tests must be made in either case so the brake valve meets the following specifications:

(1) The brake valve must deliver approximately full reservoir pressure when the treadle is fully depressed. If this test is being made on a vehicle and brake valve does not deliver approximately full reservoir pressure, check to see if the treadle or pedal stop (or linkage if lever type brake valve is used) is arranged so as to prevent the brake valve from delivering full reservoir pressure. This arrangement may be found on some vehicles and must not be altered unless a higher delivery pressure is desired to meet the specification covering the vehicle or unless it is necessary to increase the effectiveness of the brakes.

(2) The brake valve must control delivered pressures between approximately 5 and 75 pounds. These pressures must rapidly vary in accordance with the position in which the treadle is held.

(3) Leakage at the exhaust port in both the fully

applied or fully released positions must not exceed a one-inch soap bubble in one second.

(4) No leakage is permissible at any other point on the brake valve with the treadle in depressed position.

#### ADJUSTMENT

If the brake valve does not release promptly, or does not fully release, it indicates that the exhaust valve is not opening sufficiently. This can be caused:

(1) By improper adjustment of the linkage or lever adjusting screw which would prevent the lever on the lever type valve from returning to the fully released position.

(2) Lack of lubrication in the body causing the piston and spring assembly to bind.

(3) Dirt or other foreign matter between the heel of the treadle and body.

If the brake valve does not apply promptly, or does not apply fully, it indicates that the inlet valve is not opening sufficiently. This can be caused:

(1) By improper adjustment of the linkage, which would not permit the piston to travel far enough when the brake is being applied.

(2) Improper adjustment of the treadle or pedal stop.

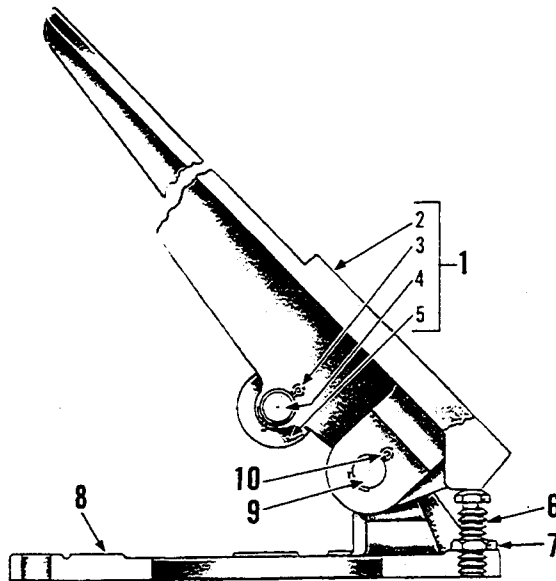
If the brake valve does not graduate the delivered pressure properly, check to be sure bleed hole to the cavity immediately below the piston is not restricted.





## TREADLE AND MOUNTING PLATE ASSEMBLY

Pc. No. 275526



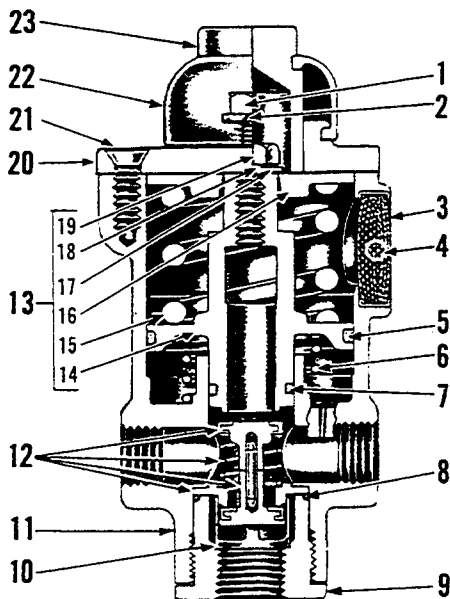
### TREADLE & MOUNTING PLATE ASSEMBLY

Pc. No. 275526

No.	Pc.No.	Quan.	Description
1	275534	1	TREADLE ASSEMBLY
2	240702	1	TREADLE BODY
3	231664	1	COTTER PIN
4	238477	1	ROLLER PIN
5	211026	1	ROLLER
6	236710	1	ADJUSTING SCREW
7	230903	1	LOCK NUT
8	240701	1	MOUNTING PLATE
9	236438	1	FULCRUM PIN
10	210492	1	COTTER PIN

## E-1 BRAKE VALVE

Pc. No. 227259



### E-1 BRAKE VALVE

Pc. No. 227259

No.	Pc.No.	Quan.	Description
1	210897	2	CAP SCREW
2	202983	2	LOCK WASHER
3	211126	1	FILTER SCREEN
4	236990	2	TAPPING SCREW
5	230978	1	GROMMET, 2.38" O.D.
6	235829	1	PISTON RETURN SPRING
7	214447	1	GROMMET, 1.00" O.D.
8	230878	1	GROMMET, 1.375" O.D.
9	236975	1	INLET NUT
10	237008	1	INLET VALVE GUIDE
11	236969	1	BODY
12	275060	1	INLET & EXHAUST VALVE ASSY.
13	226833	1	PISTON & SPRING ASSEMBLY
14	236976	1	PISTON
15	236977	1	GRADUATING SPRING
16	236978	1	GRADUATING SPRING SEAT
17	204235	1	WASHER
18	235800	1	SHAKEPROOF WASHER
19	212122	1	CAP SCREW
20	237383	1	ADAPTER PLATE
21	236391	3	MACHINE SCREW
22	236982	1	BOOT
23	237548	1	PLUNGER

## STEERING SYSTEM

For information not listed herein, refer to Maintenance Manual X-5822 for Model PD-4501

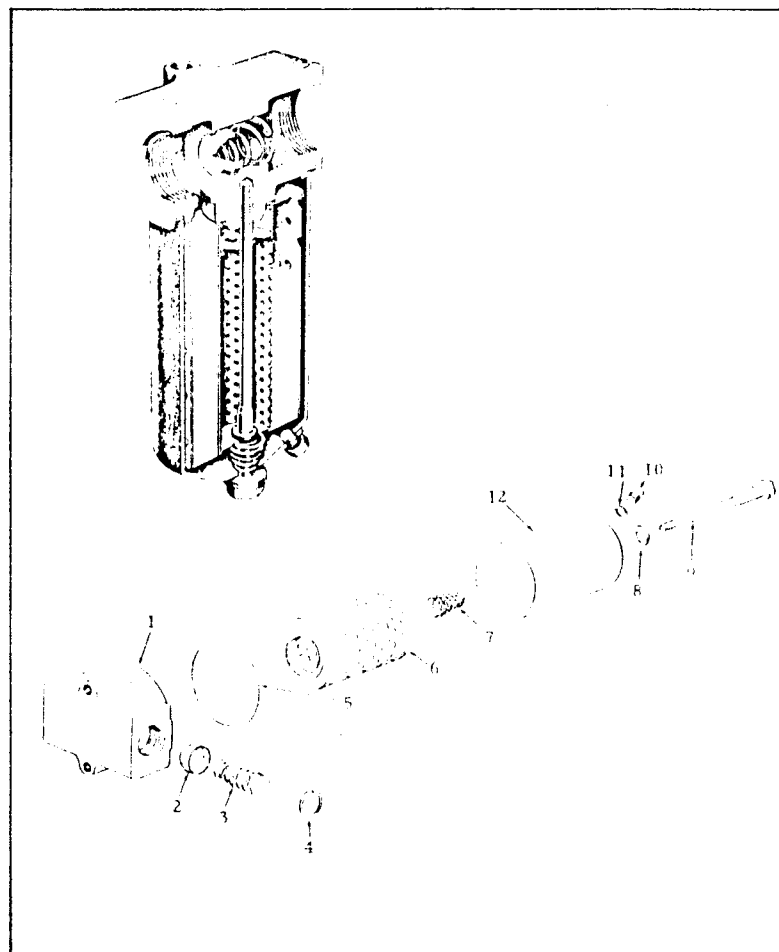
Sec. 16 Pages 1 thru 32

Information is applicable as outlined below:

The hydraulic power steering pump as furnished by Marmon-Herrington Company, Inc., is a right-hand rotation. The Model number is VT36-100-40-95-40-10-S3 R.H. with a capacity of four gallons per minute at 1200 RPM and 100 P. S. I.

For all maintenance and specification information for the steering pump, see Section 16 of Maintenance Manual X-6114 for Model PD-4106.

The original fluid filter remains unchanged. A Second fluid filter has been added in the system. An exploded view of this new filter is shown below.



- |           |              |           |            |
|-----------|--------------|-----------|------------|
| 1. Base   | 4. Snap Ring | 7. Spring | 10. Plug   |
| 2. Poppet | 5. Seal Ring | 8. Gasket | 11. Gasket |
| 3. Spring | 6. Cartridge | 9. Bolt   | 12. Body   |